# 部菏 <br> <br> 01 <br> <br> 01 <br> <br>  

 <br> <br> }


# Introductory Report: Decent Work - Safe Work 

by

Dr. J. Takala, Director, SafeWork<br>International Labour Office, Geneva

XVIIth World Congress on Safety and Health at Work
(Orlando, 18-22 Sep. 2005)

Contributors:
G. Albracht, P.Baichoo, I.Christensen, J. Caborn, I. Fedotov, V.Forastieri, M.Gifford, D. Gold, W.Husberg, T.Kawakami, W.Kim, A.Lopez-Valcarcel, S.Machida, F.Muchiri, M.Nahmias, S.Niu, A. Rice, B. Treichel, N.Watfa.
"... All too often lives are shattered unnecessarily because of poor working conditions and inadequate safety systems... Let me encourage everyone to join the International Labour Organization in promoting safety and health at work. It is not only sound economic policy, it is a basic human right...".
(Kofi Annan, Secretary-General of the United Nations)
"... Prevention is paying not only in human terms but also in better performance by businesses and national economic strength. Together we can make sure that decent work is safe work ...".
(Thaksin Shinawatra, Prime Minister of Thailand)
"...Promoting a Safety Culture is the theme of this year's World Day for Safety and Health at Work. This promotional initiative is an important complement to the normative foundation of OSH at work... [We will] work with other nations to implement the Global Occupational Safety and Health Strategy adopted at the 2003 International Labour Conference...".
(Tarja Halonen, President of Finland)

First published (2005)

Publications of the International Labour Office enjoy copyright under Protocol 2 of the Universal Copyright Convention. Nevertheless, short excerpts from them may be reproduced without authorization, on condition that the source is indicated. For rights of reproduction or translation, application should be made to the Publications Bureau (Rights and Permissions), International Labour Office, CH-1211 Geneva 22, Switzerland. The International Labour Office welcomes such applications.

Libraries, institutions and other users registered in the United Kingdom with the Copyright Licensing Agency, 90 Tottenham Court Road, London W1T 4LP [Fax: (+44) (0)20 7631 5500; email: cla@cla.co.uk], in the United States with the Copyright Clearance Centre, 222 Rosewood Drive, Danvers, MA 01923 [Fax: (+1) (978) 750 4470; email: info@copyright.com] or in other countries with associated Reproduction Rights Organizations, may make photocopies in accordance with the licences issued to them for this purpose.

Introductory Report: Decent Work - Safe Work
Geneva, International Labour Office, 2005
ISBN 92-2-117750-5 (print)
ISBN 92-2-117751-3 (web pdf)

The designations employed in ILO publications, which are in conformity with United Nations practice, and the presentation of material therein do not imply the expression of any opinion whatsoever on the part of the International Labour Office concerning the legal status of any country, area or territory or of its authorities, or concerning the delimitation of its frontiers.

The responsibility for opinions expressed in signed articles, studies and other contributions rests solely with their authors, and publication does not constitute an endorsement by the International Labour Office of the opinions expressed in them.

Reference to names of firms and commercial products and processes does not imply their endorsement by the International Labour Office, and any failure to mention a particular firm, commercial product or process is not a sign of disapproval.

ILO publications can be obtained through major booksellers or ILO local offices in many countries, or direct from ILO Publications, International Labour Office, CH-1211 Geneva 22, Switzerland. Catalogues or lists of new publications are available free of charge from the above address, or by email: pubvente@ilo.org

Visit our website: www.ilo.org/publns

## Introduction

Throughout the world, there is growing acceptance that accidents and ill-health at work impact not only on the lives of individual workers, their families and their potential for future work, but also the productivity and profitability of their enterprises and ultimately the welfare of the society in which they live. In short, safety and health at work makes good business sense, and maintaining acceptable standards is seen as an integral and key component of societal development, poverty alleviation and of 'decent work'.

The ILO firmly believes that work-related accidents and ill-health can and indeed must be prevented, and that action is needed at international, regional, national and enterprise levels to achieve this. Yet, globally, the statistics appear to show an increasing trend in occupational accidents and diseases. As the ILO Director-General said when referring to the Decent Work Agenda, "Decent Work must be Safe Work, and we are a long way from achieving that goal".

The protection of workers against injury and disease has always been a key issue for the ILO since it was founded in 1919, and many of its activities have been directed to that end. Many Conventions, Recommendations and other instruments on occupational safety and health (OSH) have been adopted over the years, and these have helped to improve working conditions throughout the world. This impetus has been maintained, and recent years have seen both the adoption of a Global Strategy for $\mathrm{OSH}^{1}$, which seeks to integrate and enhance the ILO's activities in this area, and the development of a new promotional framework for OSH, intended for adoption as a Convention in 2006.

This report provides an overview of the most recent estimates of occupational and work-related accidents and diseases, world-wide, some of the causes for recent changes and what the ILO and its member States are doing to improve conditions in the workplace for the millions who are at risk from injury.

[^0]
# The global picture: latest estimates of occupational accidents and work-related diseases 

The impact of occupational accidents and diseases (which are 100\% work-related and often compensatable) and other work-related diseases (which are only partly caused by work) can be measured using several different indicators. Reported accident and diseases statistics provide perhaps the most direct indicator, but such data are often very incomplete since under-reporting is common and official reporting requirements frequently do not cover all categories of workers anyway - those in the informal economy for example. Other indicators need to be used as well to obtain a fuller picture, such as compensation data, disability pensions and absenteeism rates, although these too provide incomplete data. For example, no country records and compensates all occupational accidents and diseases, although data for occupational accidents are more comprehensive than those for occupational diseases. These indicators may be linked together, as, for example, when estimating Disability Adjusted Life Years (DALYs).

The latest global estimates of the numbers of work-related accidents and diseases have therefore been based on official statistics from all Regions of the world for 2001, particularly from countries that record such data reasonably well, and extrapolated using a number of indicators as mentioned above. The year of 2001 was chosen, since this is the latest year for which internationally comparable data on occupational accidents and estimates of mortality from the WHO were available. Earlier estimates were based on data from the year 1998.

According to the latest ILO estimates for accidents and diseases, there are globally about

## 2.2 million work-related deaths annually

which represents about a $10 \%$ increase on the estimate given in the Introductory Report to the XVIth World Congress on Safety and Health at Work in Vienna, $2002^{2}$. The following tables, and Annex 3, give more details, comparing estimates for 2001 with those for 1998 and providing a breakdown by different world regions.

[^1]Table 1. Progress of estimated and reported fatal and non fatal accidents, 1998-2001 (legend, see Table 2 below)

| Region | Economically active population (2001) | Economically active population (1998) | Fatal accidents reported to the ILO (2001) | Accidents causing $3+$ days' $^{\prime}$ absence reported to the ILO (2001) | Fatal accidents reported to the ILO (1998) | Accidents causing 3 days' (+) absence reported to the ILO (1998) | ILO Global Estimates on Fatal Accidents 2001 | ILO <br> Global Estimates on Fatal Accidents 1998 | Accidents causing 3+ days' absence Average (2001) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EME | 419,732,002 | 409,141,496 | 14,316 | 7,527,083 | 14,608 | 7,631,977 | 15,879 | 16,170 | 12,118,393 |
| FSE | 183,089,714 | 184,717,127 | 7,853 | 343,004 | 8,665 | 582,287 | 17,416 | 21,425 | 13,291,068 |
| IND | 443,860,000 | 458,720,000 | 222 | 928 | 211 | 0 | 40,133 | 48,176 | 30,627,865 |
| CHN | 740,703,800 | 708,218,102 | 12,736 | 61,329 | 17,804 | 75,773 | 90,295 | 73,615 | 68,909,715 |
| OAI | 415,527,598 | 404,487,050 | 3,051 | 141,349 | 5,631 | 252,499 | 76,886 | 83,048 | 58,676,113 |
| SSA | 279,680,390 | 260,725,947 | 145 | 27,015 | 1,675 | 47,105 | 53,292 | 54,705 | 40,670,012 |
| LAC | 219,083,179 | 193,426,602 | 2,009 | 776,938 | 6,998 | 1,699,107 | 39,372 | 29,594 | 30,046,941 |
| MEC | 135,220,721 | 112,906,300 | 1,416 | 153,785 | 1,876 | 191,164 | 17,977 | 18,986 | 13,719,565 |
| WORLD | 2,836,897,404 | 2,732,342,624 | 41,748 | 9,031,431 | 57,468 | 10,479,912 | 351,251 | 345,719 | 268,059,671 |

Table 2. Latest Estimates on Work-related Fatalities, caused by both occupational accidents and work-related diseases.
$\left.\begin{array}{|r|r|r|r|r|r|r|r|}\hline \text { Region } & \begin{array}{c}\text { Economically } \\ \text { active population } \\ \text { (2001) }\end{array} & \begin{array}{c}\text { ILO Global } \\ \text { Estimates on } \\ \text { Fatal Accidents } \\ \text { 2001 }\end{array} & \begin{array}{c}\text { Fatal } \\ \text { work-related } \\ \text { diseases } \\ \text { calculated using } \\ \text { age structures }\end{array} & \begin{array}{c}\text { Work-related } \\ \text { mortality } \\ \text { calculated using } \\ \text { age structures } \\ \text { (accidents and } \\ \text { diseases) }\end{array} & \begin{array}{c}\text { Deaths caused } \\ \text { by dangerous } \\ \text { substances (age) }\end{array} & \begin{array}{c}\text { Fatal } \\ \text { work-related } \\ \text { diseases }\end{array} & \begin{array}{c}\text { Work-related } \\ \text { mortality } \\ \text { calculated using } \\ \text { gender structures } \\ \text { gender structures }\end{array} \\ \text { (accidents and } \\ \text { diseases) }\end{array}\right]$

World Bank Regions: EME - Established Market Economies; FSE - Former Socialist Economies; IND - India; CHN - China; OAI - Other Asia and Islands;
SSA - Sub-Saharan Africa; LAC - Latin-America and Caribbean; MEC - Middle Eastern Crescent

Table 3. Global Estimated Work-Related Fatalities by Region, absolute numbers, legend see table 2


## The methodology

Global estimates of work-related deaths caused by diseases have been made using attributable fractions for work-related mortality due to specific disease categories and injuries. Calculations were made using two methods: one used the attributable fractions for different age structures and the second those for different sexes separately. An attributable fraction can be "interpreted as the fraction of a disease [or injury] which would not have occurred had the factor been nonexistent in the population in question" ${ }^{3}$. These attributable fractions or percentage figures for different disease categories are based on data about existing exposures to known factors of work-related diseases and their proven impact on exposure - outcome relationship and morbidity to these diseases, in particular, in industrialized countries.

Such studies have been carried out only to a limited extent, if at all, in developing countries. However, the exposure/disease relationship is expected to be largely consistent with that in industrialized countries, although a few exceptions may exist (see ILO Introductory Report to the World Congress in Vienna in $2002^{4}$ ).

The number of fatal occupational accidents was estimated firstly using reported frequency rates of fatal accidents (fatals/100 000 workers) obtained from ILO member States that report their accident data most reliably, in three economic sectors:

1. agriculture/fishing/forestry

[^2]2. manufacturing industries and construction
3. service industries

These rates were complemented by country data when available and then applied to the total employment figures obtaining the fatality figures by the three economic sectors and by country ${ }^{5}$, see Annex 3.

Non-fatal occupational accidents were estimated using the reasonably stable ratio of fatal accidents to non-fatal accidents that cause an absence of 3 days or more. This accident pyramid ratio is roughly $1 / 1000$, or every thousandth accident leads to a fatality when high quality and reliable recording and notification systems are used. Three different estimates were used:

1. the highest estimate was based on the average reporting rates of Finland, France, Germany and Luxembourg,
2. the lowest estimate was $50 \%$ of the above
3. the average estimate, shown in the tables above, was $75 \%$ of the country rates between fatal and non-fatal accidents.

Reported and estimated numbers are shown next to each other. Major factors influencing the work-related death figures were listed in the Introductory Report to the World Congress in 2002.

## A commentary

These figures represent a small but significant increase in the numbers of work-related accidents and diseases since the previous study. There appear to be several reasons for the increases from previous estimates, the main ones being:

1. The total number of workers (economically active population) has increased.
2. The gender disaggregated results for work-related diseases were clearly higher ( 2.38 million deaths) than those calculated by both sexes together for specific age groups ( 2.03 million). These age groups were 15- 29, 30-44, 45-59, 60-69 and 70+. Most workers in the older age groups had already retired and estimates were only made for those suffering from diseases with long latency periods. The age groups calculations are expected to be more accurate while the average value has been taken for the global estimate: 2.2 million.
3. Global figures for fatal accidents were fairly stable and increased only slightly, increasing in developing and decreasing in industrialised countries. Changes, for example in Latin America, reflect new data on both fatal accident rates, better coverage and larger manpower, while the decrease in Indian figures, for example, is largely based on improvements in reference countries as very limited information was available for India itself.
4. According to latest data, accidents account for the biggest share of work-related mortality in Other Asia and Island and China (Table 4). However, work-re-

[^3]lated communicable diseases, such as work-related malaria and other infectious diseases create the greatest burden in Sub-Saharan Africa and India as well as in other sub-regions. Furthermore, accident victims on average are much younger than those suffering from work-related diseases and the potential loss of working life is longer.
5. Although exposure to toxic substances in the workplace are now generally better controlled in industrialized countries than they were, many such countries are now witnessing a significant increase in the rate of fatalities from past exposures to certain substances because of the latency of some diseases. This is especially so for asbestos. For example, the UK estimates that at least 3500 people in Great Britain die each year from mesothelioma and asbestos-related lung cancer and that annual deaths are predicted to go on rising into the next decade. There is a big lesson here for those countries that still continue to use asbestos in manufacturing processes.

It is a well-known fact that certain sectors are more dangerous than others. One of the key reasons for the favourable declining fatal accident trend in industrialized countries is the gradual change in patterns of employment: fewer people now work in hazardous sectors, such as steel mills, shipbuilding and ship breaking, agriculture, forestry and mining, and more are employed in the relatively safe service sectors. Conversely, the industrialization of developing countries is often accompanied by a rapid increase in numbers of fatal and non-fatal accident rates, with the growth of new factories and the development of the infrastructure, the construction of new buildings and roads, all of which may employ untrained (and migrant) workers in new environments, exposed to risks hitherto unknown to them. If the experience of industrialized countries is to be repeated, fatal and major accidents and disease will continue to increase until a plateau is reached, as prevention policies and programmes gradually gain momentum, enforcement of legislation begins to take effect and workplace risks become properly managed.

This rapid increase of accidents in industrializing countries may be partly explained by improved recording and compensation systems, which will tend to increase official statistics, although rural and informal economy working populations continue to be outside such systems. This applies to both legal and compensation coverage as well as to that of the inspection and occupational health services. Industrial and service sectors are better covered and thus recording systems produce more realistic figures.

## Work-related non-fatal diseases

The causes of work-related diseases are complex. In some cases a work-related factor may be the only cause of the disease, but it is much more common for work-related factors to increase the risk of disease together with other factors. Work-related factors also often aggravate an already established disease. Although the ILO recently established a new list of occupational diseases ${ }^{\top}$, the concept of occupational diseases and recording them depends on administrative decisions in each member

[^4]State. It also appears that the member States that report most occupational diseases are those with the best systems of protection, including the recording and compensation of such diseases.

Work-related diseases are a wider concept than occupational diseases and cover all diseases where work is a contributory cause. As a hypothetical example, one could have 10 cases of diseases for which a work-related factor is estimated to have contributed a $30 \%$ increase in risk in each case, the remaining $70 \%$ being due to causes not related to work. Epidemiologically, 10 cases of a disease each with a $30 \%$ contribution from a harmful occupational exposure would equate to 3 cases of the same disease that could have been wholly prevented by avoiding the harmful occupational exposure ${ }^{8}$. The way to identify these diseases is to carry out labour force surveys that take into account the self-reported diseases (and injuries). When these are well done and when the population surveyed is aware of the possible causes of work-related diseases they may provide a good estimate of the magnitude of the problem.

Table 4. Share of absolute figures of fatal occupational injuries, world 2001

Fatal occupational injuries- total: 351000



The annual number of non-fatal work-related diseases has earlier been estimated to be 160 million. The British (1998) and Finnish (2000) surveys on self-reported work-related illnesses came to the conclusion that $7.3 \%$ and $8.3 \%$ respectively of those employed report annually one or more work-related illnesses that caused absence from work. This would mean in the world population - provided that workers are not health-
ier in other parts of the world - that between 184 and 208 million workers suffer from work-related diseases. About $2.3 \%$ or 58 million of those suffer from illnesses that cause 4 days or more absence from work. The EU Labor force survey identified a prevalence rate of 5372 cases per 100000 persons a year. In Nigeria a much higher percentage was found, probably due to the perception that in the informal economy and in agriculture, people work for a much higher proportion of the day. In the UK, the latest (2003-2004) prevalence rate of all self-reported work-related illness was estimated to be about 4750 per 100,000 workers, with musculo-skeletal disorders and stress, depression and anxiety being the most commonly reported ${ }^{9}$.

Taking into account the under-employment in a number of countries and the increased manpower the earlier estimate of $\mathbf{1 6 0}$ million work-related diseases is reasonable for the 2.8 billion work force, if also taking into account non-recorded, part-time, child and other informal sector workers.

## Occupational injuries

Although fatal occupational injuries caused by accidents are placed third when looking at the main reasons for deaths at work, there are two main aspects that must be kept in mind:
(a) Fatal accidents usually occur to workers who could still have had a long working career ahead of them and some occur to young and inexperienced workers. A new estimate of 22,000 fatalities among working children has been made in using the number of child workers that are in hazardous occupations, 178 million and the overall fatal accident frequency rate. These deaths thus cause the loss of a large number of lives and working years. In contrast both work-related cancer and work-related circulatory diseases tend to occur quite late in working life, often after retirement.
(b) While some factors that contribute to work-related diseases are difficult to eliminate, such as genetic and inherited sensitivities, occupational accidents are all caused by preventable factors at the work place. This has been demonstrated by continuously reduced accident rates in industrialized countries. Many companies and some governments have already adopted zero accident targets. This means that practically all accidents can be eliminated by a set of known measures. If all ILO member States used the best accident prevention strategies and practices that are already in place and easily available, some 300,000 deaths (out of total 360,000 ) and 200 million accidents (out of 270 million) could be prevented, not to mention the savings in compensation payments and other economic benefits.

Injuries caused by accidents lead to fatalities only when a number of contributing factors co-exist simultaneously. Fatal accidents are just the tip of the iceberg. Depending on the type of job some 500-2,000 smaller injuries take place for each fatality. The accident pyramid illustrates the issue (data from R. Skiba, Germany) ${ }^{10}$.

[^5]Table 5. The relation of fatal accidents, other accidents and incidents
EU numbers:


| 1 | fatal |
| ---: | :--- |
| 27 | permanent or |
|  | 6 months'+ absence |

9204 days or more absence
1445 non-fatal reported

Table 6. Links between hazards, exposures and work-related negative outcomes/diseases


Source: FIOH 30 years of Epidemology Sven Henberg Symposium, ILO/SafeWork

## Costs of occupational injuries and diseases

The European Union has recently estimated that the costs of occupational accidents in EU15 in the year 2000 was 55 billion euro a year and believes that is likely to be an underestimate. It does not cover costs of work-related diseases that cause 1.6 to 2.2 times more days of temporary incapacity than accidents, while there are 2.4 times more people reporting long-standing health problems at work. It further states that the costs of problems and disability due to work-related diseases may cause at least two times more temporary and permanent incapacity as compared to accidents at work. The ILO has estimated that there are 120.000 (116.000 -124.000 annual deaths in EU15 caused by work related diseases as compared to
some 6000 fatal occupational accidents (see Annex 3 of this report or www.ilo.org/safework). This may indicate that the above costs figures are still radically small if all work-related diseases and problems are taken into account.

WHO has estimated that 37 \% of low back pain, $16 \%$ of hearing loss, $13 \%$ of chronic obstructive pulmonary disease, $11 \%$ of asthma, and $8 \%$ of injuries are related to work. The ILO has estimated that the attributable fractions are as follows, while in ILO calculations some adjustments were made to compensate different exposure conditions in selected regions:

Table 7. The attributable fractions related work of various diseases. Fractions (\%) are based on largely industrial country conditions while application of these fractions was adapted to conditions in selected developing countries

| Causes | Attributable fraction | Attributable fraction, <br> men | Attributable fraction, <br> women |
| :--- | :---: | :---: | :---: |
| Communicable diseases | 8.8 | 4.8 | 32.5 |
| Malignant neoplasms | 8.4 | 13.8 | 2.2 |
| Respiratory systems diseases | 4.1 | 6.8 | 1.1 |
| Circulatory systems diseases | 12.4 | 14.4 | 6.7 |
| Neuro-psychiatric conditions | 3.4 | 6.6 | 1.8 |
| Digestive systems diseases | 2.1 | 2.3 | 1.5 |
| Diseases of the genitourinary system | 1.3 | 3.0 | 0.4 |

Furthermore, based on Australian studies related to the work-related attributable fractions of hazardous substances present such fractions listed in Annex 5. The table shows that hazardous substances are a cause of some $20 \%$ of all work-related fatalities and equally a sizeable component of other non-fatal consequences.

All of these attributable fractions give an indication of the magnitude of the costs of work-related problems. Schulte ${ }^{11}$ has summarized these studies of the Global Burden and attributable fractions in his analysis listing the attributable fractions (attributable risk) from leukemia (2\%) to pneumoconiosis (100\%), injuries fraction for occupational injuries (of all injuries) was listed as $10 \%$.

The Global Burden of Disease and Injury by Murray and Lopez (WHO/World Bank) estimated that $5 \%$ of the burden is attributed to work in established market economies. This may be also close to the loss of global GDP caused by work-related factors that the ILO earlier estimated to be $4 \%$. Table 8 shows the difference of work-related mortality and the work related Global Burden caused by all diseases and injuries. The share of work related burden increases with the industrial development and reflect the success in eliminating communicable diseases and increasing the role of work-related, usually non-communicable diseases. Accidents are well represented in this calculation while work-related diseases may not have been properly covered. One fatal accident appears to cause an average loss of 14 life years (Murray and Lopez).

[^6]Table 8: Global Burden of Disease estimates 1996 (being revised)

| Work as | EME | FSE | IND | CHN | OAI | SSA | LAC | MEC | World |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \% of total deaths | 2.2 | 2.0 | 2.0 | 2.8 | 2.7 | 1.4 | 3.2 | 2.4 | 2.2 |
| \% of DALY's | 5.0 | 3.8 | 2.0 | 3.9 | 2.8 | 1.3 | 3.7 | 2.6 | 2.7 |

DALY's: Disability Adjusted Life Years. For 'EME' etc, see footnote Table 2

## Productivity and competitiveness

An often-heard argument is that poor countries and poor companies cannot afford safety and health measures. There is no evidence that any country or company in the long run would have benefited from a low level of safety and health. On the contrary, recent studies by the World Economic Forum and the Lausanne Institute of Management IMD demonstrate that the most competitive countries are also the safest. Selecting a low-safety, low-health and low-income survival strategy may not lead to high competitiveness or sustainability.

Table 9. Competitiveness and Safety


## Employability

A large number of unemployed workers have impaired working capacity, even though their impairment may not be enough for them to be entitled to a personal disability pension or compensation. However, the loss of working ability can be of such magnitude that it can seriously reduce his or her re-employability. A construc-
tion worker whose back does not tolerate carrying normal loads, for example, or a painter who has asthmatic or allergic reactions caused by exposure to solvent-based paints are difficult to employ in the job for which they have been trained. The health of the unemployed is clearly worse than that of the actively employed. An average of one third of the unemployed have such complications. A recent study on ill-health retirement demonstrated that only one third of construction workers reach a normal retirement age while two thirds were placed on ill-health disability pension ${ }^{12}$. An average of $2 \%$ of construction workers were hit annually by ill-health disability that forced them to retire, the more the longer the work exposure.

## Gender aspects

Men occupy a large majority of hazardous jobs and therefore they suffer some 80\% of occupational deaths. In high-income countries this figure is $86 \%$. In low-income countries, where communicable diseases are much more common, the division is likely to be balanced.

Recent household surveys carried out in several countries point out that in traditional agriculture the accident and disease rates are more evenly distributed between the twogenders. In particular, those outcomes that are causing long-term disabilities and absences from work, such as musculo-skeletal disorders, are more common for female workers than males. These jobs are often linked to low salary levels.

## Age-related aspects

Although the above estimates do not show this, there is evidence that younger workers (aged 15-24) are more likely to suffer non-fatal occupational accidents than their older colleagues, while workers over the age of 55 appear to be more likely to suffer fatal accidents and ill-health at work than others. The causes for the increase amongst young workers are various, including their lack of work experience and understanding of workplace hazards, and better training, supervision and awareness and providing risk education while still at school can address these causes.

For older workers, the causes are probably more psychosocial and stress-related, but musculo-skeletal and other ageing factors may play a role too. In industrialized countries, about $40 \%$ of all working age retirements or about $1 \%$ of the total employment annually are caused by disability that could shorten working life by some 10 years. An average lowering of retirement age is about 5 years e.g. from 65 to 60, which is $14 \%$ of the lifetime working capacity of the employed labour force. Certainly, as the age of retirement increases in some countries and experienced workers are being encouraged to continue in their jobs, issues relating to their safety and health at work are now being actively addressed - as they are, for example, in the USA and the EU ${ }^{13}$.

[^7]
## Absenteeism

With increasing pressures to improve business efficiency and productivity, many employers are becoming increasingly concerned about worker absenteeism arising from accidents and, more especially, chronic ill-health. An average of $5 \%$ of the work force is absent from work every day. This may vary from $2 \%$ to $10 \%$ depending on the sector, type of work and management culture. The occupational safety and health management (OSH) system of the enterprise is in a key position and can radically reduce these absences caused by accidents, occupational and work-related diseases as well as stress and lack of motivation.

## Workers' health promotion and well-being at work

Stress can be a major factor in the causes of work-related accidents and ill-health. It may be also linked to the misuse of alcohol and drugs or have links to work place violence, as well as with factors outside the workplace. In many parts of the world there may also be a link with HIV/AIDS.

Smoking is clearly a newly recognized major problem at work and methods to prevent its harmful effects are basically the same as for any other hazards at work. According to one estimate, mortality from occupational exposure to environmental tobacco smoke (passive smoking at work) causes $2.8 \%$ of all lung cancers. The attributable fraction of deaths from passive smoking were $1.1 \%$ for chronic pulmonary disease, $4.5 \%$ for asthma, $3.4 \%$ of ischemic heart disease, and $9.4 \%$ for cerebrovascular stroke. This totals about $14 \%$ of all work-related deaths caused by disease or 200,000 fatalities. Many of these are people in the restaurant, entertainment and service sectors while the problem can exist in any occupation.

Active smoking causes ill-health figures that are a magnitude higher. Although it may be difficult to influence individual behaviour directly at a work place, the management system has a key role in establishing smoke-free, stress-free, violence-free work places, etc. Similarly, both legal and health promotion measures as well as labour inspection have key roles in such preventive and control measures.

These facts have been the starting point for the preparation of a new training manual for the psycho-social factors at work, called SOLVE, which is considered later.

## II

## Meeting the challenges

## A Global Occupational Safety and Health Strategy

The International Labour Conference in June 2003 gave fresh impetus and direction to the global cause of occupational safety and health (OSH). It recognised the good work done by the ILO and its constituents over many years, but resolved to promote greater international and national effort to raising standards and reducing work-related accidents and disease worldwide. The Conference Conclusions were widely circulated ${ }^{14}$.


The Conference representing all 178 governments and workers and employers organisations adopted a new Global Strategy for Occupational Safety and Health ${ }^{15}$, which aims to promote more of a preventive approach to reducing work-related accidents and diseases and to do so through the wider promotion of a preventative safety and health culture and better management of OSH at national and at enterprise levels. The Strategy contains a structure for future action under 5 broad headings, and, using the same structure, this report summarises the activities that have been undertaken so far.

Further details of recent national and international outputs and activities are given in Annex 1, 2 and 4.

[^8]
## 1 Promotion, awareness raising and advocacy

The ILO Conference Conclusions underlined the importance of the ILO's advocacy role in promoting OSH and endorsed the establishment of an annual international safety and health event.

The World Day for Safety and Health at Work - held on 28 April every year - has now become one of the most important international events for promoting OSH. The World Day builds on the success of the Workers Memorial Day instituted by the International Confederation of Free Trade Unions in 2001, and it was first held under this heading in 2003 and again in 2004 and 2005. The main theme for each year has been on promoting a preventative safety and health culture in the workplace, with different sub-themes. In 2005, for example, sub-themes were the construction sector and both younger (aged 15-24) and older (aged 55+) workers.

Table 10. World Day Poster - and other documentation - is available in many languages


In 2004, 111 countries reported a wide range of activities related to the World Day, while in 2005 the figure rose to 115 countries. In both years, Governments, employers and workers committed themselves to various kinds of events, with Government Ministers and other senior officials, Executive Heads of employers' and workers' organizations playing an active role. There has been considerable enthusiasm for improving OSH, all of which served further to publicise the human and the economic costs of accidents and diseases at work. The occasion was also used to launch some new publications, such as a new two-volume Russian OSH Encyclopaedia by the Minister of Labour.

National TV, radio and newspapers covered World Day activities across the globe, and ILO field offices reported at least 30 media reports on events in 2005, including front-page news articles. International broadcasting organisations, such as the BBC and CNN, also covered the World Day in their global broadcasts. The Prime Minister of Thailand provided a video message to mark the occasion, while the ILO Director General referred to the

World Day at the China Employment Forum on 28 April, underlining of the importance of OSH as a key component of Decent Work, and a video message from him was also widely distributed and used, both on large screens and on national television, to publicize the World Day. Further details of what took place during the World Day 2005 can be found at www.ilo.org/public/english/protection/safework/ worldday/index.htm

This XVIIth World Congress on Safety and Health at Work in Orlando is another key promotional event for safety and health at work, and the ILO is proud to be one of the three organizers of the event, along with the U.S. National Safety Council and the International Social Security Association. Another key event was the Xth International Conference on Occupational Respiratory Diseases that was attended by some 500 participants in April 2005 in Beijing. This major meeting, like others, has served as a forum for the exchange of technical and practical experience as well placing OSH higher on international and national agendas and attracting media attention.

In addition to promoting OSH through such publicity, the ILO also seeks to raise the visibility of its own instruments. It is therefore encouraging to note that many Conventions on OSH and related topics, such as labour inspection, have been ratified in recent years. In 2004-2005, for example, 28 new ratifications of Conventions were received from 17 member States. Many more member States ( 35 in 2004/05) have updated their legislation on OSH, strengthening their inspection systems, and developed national OSH programmes and systems for carrying the programmes into effect. A special promotional conference on Labour Inspection was jointly organised by the Government of Luxembourg holding the presidency of the European Union in 2005.

Table 11. ILO/EU - Luxembourg Labour Inspection Conference Conclusions


National OSH policies and programmes have been agreed and adopted in many countries, and tripartite groups established to help discuss and formulate sector-specific measures. For example, tripartite national construction safety committees have been set up both in Argentina and Colombia, with the purpose of discussing and formulating the respective national policies and programmes for that sector. The ILO has also been actively supporting initiatives in some countries for developing national policies and programmes, while in others, it has been working closely with governments to establish national tripartite advisory bodies for OSH.

## 2 Development of new instruments and related guidance

Progress has been made toward adopting new ILO instruments on several topics. In particular, the ILO Conference in 2003 called for the development of a new instrument establishing a promotional framework for OSH, and a first discussion on this took place at the International Labour Conference in June 2005. Two Reports IV (1) and IV (2) were published for discussion at the Conference, both of which are entitled "Promotional framework for occupational safety and health" ${ }^{16}$ and are available on the ILO website, as is the Provisional Record of the Conference ${ }^{17}$. This will be an important new ILO instrument for promoting OSH at national and enterprise levels, and a second discussion on it is scheduled to take place in June 2006.

Table 12. Strategic Approach on Occupational Safety and Health


The three main components of the proposed Promotional Framework Convention as explained in the Table 12 include:

1. Promotion, ratification, adaptation into the national system and implementation of existing ILO instruments, that is Conventions, Recommendations and Codes of Practice and Guidelines;
2. Strengthening of the national occupational safety system: legal provisions, enforcement, compliance and labour inspection capacity and capability, at least basic occupational health services, knowledge management, information exchange, research, and support services. Such a system must be based on tripartite collaboration;
3. Establishing a national programme and strategy $18^{18}$, that has time-bound targets and indicators to continuously follow up and measure progress through selected indicators. It should be endorsed by highest possible authorities. A starting point for a programme is a national profile, a review of the existing occupational safety and health situation, see Table 13.

## Table 13. National profile is a review of existing safety and health conditions in a country



Systematic and continuous progress is vital both at the national level as well as at the enterprise level following the same principles as those expressed in the ILO Guidelines on Occupational Safety and Health Management Systems, ILO-OSH 2001.

The objective is to establish an maintain a preventative safety and health culture based on the workers' right to safe and healthy work environment and the principle of prevention.

A new (brown) report on the Promotional Framework Convention was released in August 2005, which contains a draft Convention and Recommendation for the ILO Conference discussions in June $2006{ }^{19}$.

Other topics raised at the 2003 Conference included new instruments on ergonomics and machinery safety, and work has begun on both of these topics. A new study on ergonomics, for example, has been carried out in collaboration with the International Ergonomics Association. The ILO was also requested to convene the first tripartite meeting of experts to update the List of Occupational Diseases Recommendation, 2002 (No.194) and this will take place in December 2005. Scientific and technical developments over the last decade will be further examined to help in the identification and diagnosis of diseases due to work, and in collecting national lists of occupational diseases.

New guidance has been published on several topics, such occupational radiation protection in mining and processing of raw materials and on ship breaking in Asian countries and Turkey. Other guidance has included working papers on smoking at work and on infectious and other communicable diseases, following a request from ASEAN countries for guidance on SARS

## Promotion of existing OSH instruments

The need to apply international OSH instruments and other standards in practice has been widely advocated. It was encouraging to note, therefore, that in 2004-2005, 38 new ratifications were received from 19 member States of OSH-related Conventions, reflecting the efforts of constituents and the ILO in previous years. A number of OSH instruments have helped to guide the revision of national legislation, while technical assistance has been provided to member States where ratification of OSH-related Conventions is being seriously considered.

Annex 6 contains further details of selected Conventions ratified by particular countries and other guidance that has been implemented.

## 3 Technical assistance and cooperation

## National OSH Policy and Programmes

The Conference endorsed the importance of launching national OSH programmes by the highest government authorities, for example by Heads of State or parliaments, to help place OSH at the tops of national agendas. The ILO has been working closely with member States in creating tripartite consensus towards the formulation of national OSH programmes as well as the eventual development of the programmes for continual improvements in national OSH mechanisms and performance. Initial steps have included advisory discussions with constituents and the development of national OSH profiles documenting national OSH systems and circumstances as the basis for the identification of priorities.

National OSH policies and programmes have been agreed and adopted in many countries, and tripartite groups established to help discuss and formulate sec-tor-specific measures. The ILO has also been actively supporting initiatives in some countries for developing national policies and programmes, while in others, it has been working closely with governments to establish national tripartite advisory bodies for OSH.

## Decent Work programmes

In order to ensure that national OSH issues are addressed at the policy level, the ILO has promoted the inclusion of OSH aspects in the National Plans of Action for Decent Work or Decent Work Country Programmes in several countries. Further information is given in Annex 4.

## Technical Cooperation Projects

Several projects are underway in the construction sector, such as ones funded by the Republic of Korea taking place in Cambodia, Laos, Mongolia, Thailand and Vietnam. Another, funded by Spain, covers MERCOSUR countries and Chile and aims to promote tripartite discussion and the formulation on national policies and field programmes. In the agriculture sector, a project was launched in Vietnam with funding from Japan to support the elaboration of a national OSH programme and to promote practical safety measures at local level (WIND).

Several projects have targeted the need to strengthen and modernise labour inspectorates, to ensure that they are technically competent and focus more on prevention. The ILO and its partners have managed a US-funded project aimed at developing a modern labour inspection service in Serbia, for example, and a similar project in Costa Rica was launched with funding from Canada. Another project linked to the UN Global Compact and funded by Germany is being undertaken in partnership with Volkswagen and its suppliers in Brazil, Mexico and South Africa, training labour inspectorates and developing mechanisms to improve OSH as an integral part of corporate social responsibility.

Another important area has been the development and implementation of SOLVE, a training programme addressing psychosocial problems at work, which has continued with financial support from Italy. As at August 2005, 1000 course directors and delegates have been trained from 40 countries, including ten French-speaking African countries. SOLVE has been translated into Italian, Spanish, Russian, Thai, Bulgarian and Portuguese with translations into Chinese and German planned. The second edition of SOLVE is currently under preparation, which involves expanding the programme to cover 6 new subject areas to better meet constituents' needs. The new subject areas are: nutrition, exercise, sleep, gambling, addition to new technologies and economic stress.

## 4 Knowledge development, management and dissemination

The ILO's International Occupational Safety and Health Information Centre (CIS) continues to play a key role in the international exchange of OSH information through its own information products, through its network of focal points and through its support of ILO projects and experts in the field. Links to Centres' web sites are provided by the CIS through its own pages and through a dedicated portal. Combined web access is estimated to be about 1 million hits per month.

The ILO Encyclopaedia of Occupational Health and Safety has now been made freely accessible via the CIS website ${ }^{20}$ and also as hard copy in six languages (En/Fr/Sp/Ru/Chi/Jap). A new version of the Encyclopaedia CD-ROM within the "SafeWork Bookshelf" also contains the English International Chemical Safety Cards. CIS's bibliographic database, which is a guide to world literature on OSH, was opened for free Internet access by the end of $2004^{21}$. The database is fully bilingual English-French, and an exchange of letters with the CIS National Centre for Spain will permit the expansion of its Spanish content.

In 2004, the CIS exhausted the technical cooperation resources provided by the Government of Finland over 10 years ago. As well as contributing to the publication of the African and Asian-Pacific Newsletters ${ }^{22}$ in collaboration with the Finnish Institute of Occupational Health, CIS used the remaining funds to contribute to producing WIND materials, which help local facilitators carry OSH information to workers who are not served by conventional information channels. From its own resources, CIS also continued to provide literature searches and documentation to ILO experts in regional and sub-regional offices.

Following extensive collaboration with the Arab Labour Organization (ALO) Institute of Occupational Health and Safety, the Institute was named a Regional CIS Centre, an initiative that is expected to initiate more exchange of OSH experience between ILO and ALO. Several CIS Centres in the Arab world helped to translate the International Chemical Safety Cards into Arabic. Training on OSH information management was provided to the staff of CIS National Centre in Morocco.

French, German and Portuguese editions of the ILO International Classification of Radiographs of Pneumoconioses have been prepared in order to help promote the use of this universally recognised ILO standard. Training events have also been organised for occupational physicians in developing countries to upgrade their skills in using this tool in workers health surveillance. Five member States have launched a national programme on the Elimination of Silicosis, which means the national commitment and adaptation of the ILO/WHO Global programme targeted to eliminate gradually this fatal and incurable disease altogether. Evidence in many countries show that it is feasible to do so.

## 5 International Collaboration

The International Labour Conference 2003 highlighted the importance of international collaboration. One of the ILO's most important partners in this context is the WHO, and the Joint ILO/WHO Committee on Occupational Health met in December 2003 to discuss ways of reinforcing collaboration between the agencies on topics such as the promotion of integrated approaches to OSH, OSH management systems and priority fields for action in occupational health. The Committee recommended

[^9]that collaboration should focus on: 1) guidance and support for national OSH programmes, 2) enhancing regional collaboration and coordination, 3) coordination and enhancement of information and educational programmes and materials, and 4) awareness-raising activities and instruments through campaigns, events and special days.

ILO/WHO collaboration at the regional and country levels has continued, focusing on the development of national OSH programmes, preparation of country OSH profiles, silicosis elimination, updating national lists of occupational diseases, ratification of OSH conventions, extending OSH services to agriculture, SMEs and informal sector. The WHO/ILO African Joint Effort also gained new momentum when the regional directors of both agencies signed statement of intent and wrote jointly to ministers of labour and health in all their member states to mobilize political support for their joint efforts in improving OSH in Africa. Activities have been organized for information sharing, training and capacity building, and launching of national OSH programmes.

In Latin America, discussions have been held between PAHO, IDB and OEA on OSH policy making at regional level, and a workshop on indicators was organized by PAHO for Latin America and the Caribbean with support from the ILO.

In the field of chemical safety international collaboration is extensive: the International Programme on Chemical Safety, IPCS, an ILO/WHO/UNEP Programme, prepares the International Chemical Safety Cards ${ }^{23}$ that have been very popular and are accessed through web and CD-ROMs hundreds of thousands of times, or perhaps close to million times a month. Other products of the IPCS, such as the Environmental Health Criteria supplement this array of information.

The Inter-Organisation Programme for the Sound Management of Chemicals, IOMC ${ }^{24}$, coordinates the efforts on chemical safety of seven international organizations: ILO,WHO, UNEP, FAO, UNIDO, UNITAR, OECD and World Bank and UNDP as observers. One key part of the collaboration relates to the Strategic Approach on International Chemicals Managament, SAICM ${ }^{25}$, a UN led process that also collaborates with the Intergovernmental Forum for Chemical Safety, IFCS. The Process is expected to have its 3rd UN Preparatory Committee (PrepCom3) in Vienna simultaneously during the World Congress in Orlando, and the final Conference in early 2006. The results will be reported to the ILO Conference - the ILO's highest decision making body of some 4000 delegates and 7000 participants through the Committee on Occupational Safety and Health in June 2006.

International collaboration to reduce exposure to asbestos has also continued. Of note, the International Confederation of Free Trade Unions and Global Union Federations, together with the ILO and WHO participated in consultations during the International Labour Conference in 2005 to intensify action towards the world ban on asbestos. Japan has just decided to ratify the ILO Convention on Asbestos (No. 162)
and about to be the 35th country to ban asbestos altogether. The ILO has co-arranged a number of meetings and conferences to this end.

The ILO has been collaborating with several international organizations, such as ISSA, ICOH, IOHA, IEA and IALI. For example, collaboration with IALI (the International Association of Labour Inspection) has focused on promoting the global OSH strategy through joint conferences, including ones in South-East Asia and in Africa, targeting the construction sector and the role of labour inspection respectively. One new joint area of work has been on hazardous child labour, for which the ILO is sponsoring IALI to prepare a report on national guidance and practice on this topic.

Collaboration with other international agencies, such as the International Atomic Energy Agency, the International Maritime Organisation and the UN Institute for Training and Research (UNITAR) has continued in their respective fields. For example, the ILO and 7 other international organizations, employers and workers, have collaborated to produce the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). The GHS is now available in English, French, Chinese, Russian, Spanish and Arabic from the UN Economic Commission for Europe; other language and web versions will follow. The ILO and UNITAR jointly implement a capacity building programme on GHS, which was successfully piloted in Zambia and South Africa and is now being piloted in 6 others (Senegal, Nigeria, the Philippines, Thailand and the Gambia). Collaboration with the International Occupational Hygiene Association, WHO, the UK Health and Safety Executive and the US National Institute for Occupational Safety and Health, is also underway to finalise a simple and easy-to-use chemical control toolkit ${ }^{26}$.

Many Regional OSH conferences and similar events have also taken place, sponsored by the ILO as well as national partners. Some events have been entirely devoted to OSH, while others have covered wider aspects of 'Decent work', as with, for example, a major international conference in Melbourne in April 2005, attended by delegates from the Pacific Island Countries as well as Australia and New Zealand. It is hoped that such international events helps to share positive messages about how workplace conditions can be improved and work-related accidents and ill-health reduced.

Finally, the ILO has made formal agreements with some international and national organisations to improve the exchange of data and to assist technical cooperation. For example, an agreement was reached with the World Bank on the exchange of Iabour inspection data and the creation of a database on systems, structures and performance indicators for labour inspection and OSH.

## Conclusions

The Global Strategy adopted in 2003 has already had a profound impact on OSH policies and programmes at both international and national levels, and the ILO's present Programme and Budget are based on this strategy. The ILO's own performance against the targets set down in this Programme is summarized in Annex 4. Within the ILO itself, there is greater collaboration between the SafeWork programme and others such as those on HIV/AIDS, migrant workers and on the elimination of child labour and forced labour, to ensure coordinated approaches across the ILO.

The systems approach and national programming for OSH are also gaining momentum at the national level, and national profiles including a set of indicators of progress are being progressively developed. Continuous and stepwise improvement of both national OSH systems and national OSH programmes, which have measurable targets and are governed by tripartite dialogue, will also help to achieve better OSH outcomes in reality.

ILO SafeWork<br>September 2005

## ANNEX 1

## Key recent ILO outputs include: www.ilo.org/safework

- Global Strategy on Occupational Safety and Health, Conclusions adopted by the International Labour Conference, 91st Session, 2003
- Protocol No. 155 on Recording and Notification of Occupational Accidents and Diseases, and Recommendation No. 194 on the List of Occupational Diseases, adopted almost unanimously by the International Labour Conference in June 2002
- 64 ratifications by member States of ILO Conventions on safety and health (of a total of 345 ratifications of any ILO Convention)
- Code of Practice on Shipbreaking, 2004
- Guidelines of Occupational Safety and Health Management Systems, ILO-OSH 2001, translated into some 22 languages, adopted by several member States
- Globally Harmonized System for Classification and Labelling of Chemicals, a joint product of employers, workers and 8 international organizations, UNCED/Agenda 21, available in several languages and adopted by several countries
- SARS Practical and administrative responses to an infectious disease in the workplace
- Workplace Smoking. Working Paper on a Review of National and Local Practical and Regulatory Measures
- World Day Reports on 2003,2004 and 2005
- Labour Inspection Booklet, in English, French, Spanish, Portuguese, Russian
- ILO-OSH Guidelines on Occupational Safety and Health Management Systems translated into 21 languages
- SOLVE Manuals and action on psycho-social issues in English, French, Spanish, Bulgarian and German
- Labour Inspection, a guide to the profession" translated to several languages: Russian, Ukrainian, Polish, Vietnamese, Chinese, Serbian
- A Training package on psycho-social factors at work called SOLVE on stress, work-place violence, alcohol and drugs, tobacco and HIV/AIDS at work
- A new ILO-AIDS Programme established and launched and linked to UNAIDS
- 1, 491 Chemical Safety Cards available electronically and as printed into some 20 languages
- ILO Encyclopaedia on Occupational Health and Safety, translations and various versions (electronic CD-ROMs and Web, and printed) in Spanish, Chinese, Russian, French, Japanese, and large components in Korean, on web and CD-ROMs
- 12 ILO/CIS Bulletins in English and French on world safety and health literature, laws, regulations, training materials, data sheets. Spanish version made in Spain
- 9 issues of both the Asian-Pacific Newsletter on Occupational Health and Safety and the African Newsletter on Occupational Health and Safety, in collaboration with the Finnish Institute of Occupational Health
- 136 National and Collaboration ILO/CIS Centres
- National SafeWork Programmes established in several member States and tools and methods developed for establishing such Programmes based on a National Profile


## ANNEX 2

## References (numbers do not relate to footnotes above)

International and national OSH statistics

1. ILO estimates of occupational accidents and work-related diseases www.ilo.org/public/english/protection/safework/accidis/index.htm
2. Nurminen M, Karjalainen A.: Epidemiologic estimate of the proportion of fatalities related to occupational factors in Finland. Scand J., Work Environment Health 2001; 27(3):161-213
3. Health and Safety Statistics highlights 2003-2004, Health and Safety Executive, UK, HM Stationery Office, Norwich, UK.
4. Work and Health in the EU, a statistical portrait - Eurostat, European Commission, 2004 (contact eurostat@mail.europa.eu.int )
5. A statistical analysis of socio-economic costs of accidents at work in the European Union - Eurostat, European Commission, 2004 (contact eurostat@mail.europa.eu.int).

OSH Encyclopaedia and database
6. The Encyclopaedia of Occupational Health and Safety, Fourth Edition, available as hard copies in English, Spanish, Chinese, Russian, French, Japanese, also CD-ROMs, from ILO Publications, Geneva, and website: www.ilo.org/public/english/protection/safework/cis/products/encyclo/index.htm and http://www.ilo.org/encyclopaedia/
7. CISDOC database, English, French and Spanish, www.ilo.org/dyn/cisdoc/index_html
8. African and Asian-Pacific Newsletters on Occupational Safety and Health: http://www.ttl.fi/Internet/English/Information/Electronic+journals/

Occupational health
9. Murray C., Lopez A.: Global Burden of Disease. WHO/Harvard School of Public Health., Geneva 1996
10. Takala J.: Indicators of death, disability and disease. African and Asian Pacific Newsletters on Occupational Health and Safety, 2000 www.occuphealth.fi/NR/rdonlyres/7B710A9E-941B-4134-A680-65A9137DB409/ O/apn_2000_1.pdf
11. Papers for the 13th Session of the Joint ILO/WHO Committee on Occupational Health, 2003 www.ilo.org/public/english/protection/safework/health/session13/index.htm
12. Working paper on SARS: practical and administrative responses to an infectious disease in the workplace, 2004
www.ilo.org/public/english/protection/safework/accidis/sars.pdf
13. Workplace smoking. A review of national and local practical and regulatory measures, 2004
www.ilo.org/public/english/protection/safework/tobacco/tobacco_report.pdf
14. The SOLVE Homepage www.ilo.org/public/english/protection/safework/whpwb/solve/index.htm
15. Arndt V., Rothenbacher D., Daniel U a.o.: Construction work and risk of disability: a ten year follow up of 14474 male workers. Occ.Env. Medicine, pp. 559-566

## Chemical safety

16. Globally Harmonized System of Classification and Labeling of Chemicals www.ilo.org/public/english/protection/safework/chemsfty/ghs.htm
17. International Chemical Safety Cards, www.ilo.org/public/english/protection/safework/cis/products/icsc/index.htm

The 'business case' for OSH
18. World Economic Forum - Global Competitiveness Report 2001-2004, www.weforum.org/gcp and http://www.weforum.org/site/homepublic.nsf/ Content/Global+Competitiveness+Programme\%5CGlobal+Competitiveness+Report
19. IMD World Competitiveness Yearbook, http://www02.imd.ch/documents/wcy/content/ranking.pdf
20. Schulte P.A.: Characterizing the Burden of Occupational Injury and Disease. JOEM, Vol. 47, No. 6, June 2005, pp. 607-622

Inspection systems - guidance
21. Labour Inspection - a guide to the profession, ILO. 2002-ILO publication, available in English, Chinese, Vietnamese, Russian, Ukrainian. See also www.ilo.org/public/english/protection/safework/labinsp/guide.pdf
22. Combating child labour: a handbook for labour inspectors, ILO, 2002
23. Labour Inspection brochure, published by the ILO and the Government of Luxembourg, 2005 www.ilo.org/public/english/protection/safework/labinsp/li_brochure_text.pdf
24. A handbook on HIV/AIDS for labour and factory inspectors - ILO, 2005

Committee on Safety and Health, International Labour Conferences 2003 and 2005 documents and reports
25. ILO OSH Survey Responses and Background Documents, 2003 www.ilo.org/public/english/protection/safework/integrap/docs/docs.htm
26. Report VI - ILO standards-related activities in the area of occupational safety and health, 2003 - www.ilo.org/public/english/standards/relm/ilc/ilc91/pdf/rep-vi.pdf
27. Global strategy for occupational safety and health, ILO, 2003 http://www.ilo.org/public/english/protection/safework/globstrat_e.pdf
28. Progress in the implementation of the Global Occupational Safety and Health Strategy 2003 - paper to ILO Governing Body, November 2004 -www.ilo.org/public/english/standards/relm/gb/docs/gb291/pdf/esp-4.pdf
29. Report IV (1) - Promotional framework for occupational safety and health, 2004 -www.ilo.org/public/english/standards/relm/ilc/ilc93/pdf/rep-iv-1.pdf
30. Report IV (2) - Promotional framework for occupational safety and health, 2005 -http://www.ilo.org/public/english/standards/relm/ilc/ilc93/pdf/rep-iv-2.pdf

World Day for Safety and Health at Work - reports
31. World Day for Safety and Health at Work, 2003, 2004 and 2005, homepages www.ilo.org/public/english/protection/safework/worldday/index.htm
32. Safety in Numbers - pointers for a global safety culture at work, 2003www.ilo.org/public/english/protection/safework/worldday/report_eng.pdf

Other useful references
33. Paananen S.: Dangers at Work - Perceived occupational diseases, accidents and violence at work in 1999. Statistics Finland 2000:15, Helsinki, Finland, 2000
34. Catalogue of ILO Publications on Occupational Safety and Health, Edition 2000, http://www.ilo.org/public/english/protection/safework/publicat/index.htm
35. ILO-OSH 2001 Guidelines on Occupational Safety and Health Management Systems, ILO Geneva, 2001, www.ilo.org/public/english/protection/safework/ managmnt/index.htm
36. International and National Standards on occupational safety and health, ILO Standards and Codes of Practice and national legislation data sources, CD-ROM, Geneva 2002, and www.ilo.org/safework
37. ILO programme implementation 2002-03, March 2004 -http://www.ilo.org/public/english/standards/relm/gb/docs/gb289/pdf/pfa-10.pdf
38. A model national occupational safety and health strategy from Australia: http://www.nohsc.gov.au/nationalstrategy/
39. Hämäläinen P., Takala J., Saarela K.: Global Estimates of Occupational Accidents. Safety Science. Accepted for publication 2005

Table 1a. World-wide occupational accident and work-relatd disease figures

|  | $\begin{gathered} \text { Economically } \\ \text { poctive } \\ \text { poutaion } \\ (2001) \end{gathered}$ | $\begin{gathered} \text { Economicaly } \\ \text { poctive } \\ \text { poutaion } \\ (1998) \end{gathered}$ | $\underset{\substack{\text { Totoal } \\ \text { emporynt } \\(2001)}}{ }$ | Fatal arcients report tot tho (2001) (201) |  |  | $\begin{aligned} & \text { Accidents } \\ & \text { causing } \\ & 3 \text { days' (+) } \\ & \text { absence } \\ & \text { reported to } \\ & \text { the ILO } \\ & \text { (1998) } \end{aligned}$ |  |  |  |  | $\begin{aligned} & \text { Accidents } \\ & \text { cals } \\ & \text { Salisis ( } \\ & \text { abserce } \\ & \text { Average } \\ & \text { (20001) } \end{aligned}$ | ( Average $(1998)$ |  |  | $\begin{gathered} \text { Deaths } \\ \text { caused by } \\ \text { cangerorus } \\ \text { dubustances } \\ \text { (age) } \end{gathered}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| EME | 419,732,002 | 409,141,496 | 394,720,947 | 14,316 | 7,527,083 | 14,608 | 7,631,97 | 15,879 | 6,17 | 8,357,512 | 15,879,274 | 12,118,393 | 12,340,216 | 281,364 | 297,243 | 64,019 | 286,998 | 302,877 |
| FSE | 183,089,714 | 184,717,127 | 161,762,008 | 7,853 | 343,0 | 8,665 | 582,287 | 17,416 | 21,425 | 9,166,254 | 17,415,882 | 13,291,068 | 16,350,868 | 148,194 | 165,610 | 35,512 | 153,56 | 170,980 |
| IND | 443,860,00 | 458,720,000 | 402,51,000 | 222 | 928 | 211 |  | 40,133 | 48,176 | 21,122,666 | 40,133,065 | 30,627,865 | 36,765,87 | 261,891 | 302,02 | 64,894 | 325,350 | 365,483 |
| CHN | 740,703,800 | 708,218,102 | 733,705,100 | 12,736 | 61,329 | 7,881 | 75,773 | 90,295 | 73,615 | 47,523,941 | 90,295,489 | 68,909,715 | 56,179,742 | 386,645 | 476,940 | 02,60 | 414,024 | ,319 |
| OAI | 415,527,59 | 404,487,050 | 344,569,4 | 3,05 | 14 | 5,63 | 25,49 | 76,88 | 3,04 | 40,466,28 | 76,885,94 | 58,676,11 | 63,378,83 | 178,7 | 255,672 | 54,811 | 208, | 285,288 |
| SSA | 279,680,390 | 260,725,947 | 37,698 | 145 | 27,015 | 1,675 | 47,105 | 53, | 54,705 | 284 | ,739 | 40,670,012 | 8,72 | 211,262 | 264,554 | 55,811 | 387,721 | ,013 |
| Lac | ,083,17 | 3,426,602 | 2,033,807 | 2,009 | 776,938 | 6,998 | 1,699,1 | 39,372 | 29,594 | 20,7 | 39,371,853 | 30,046,941 | 884,72 | 108,195 | 147,567 | 31,571 | 116,135 | 155,507 |
| MEC | 135,220,721 | 112,906,300 | 76,443,255 | 1,416 | 153,785 | 1,876 | 191,16 | 17,977 | 18,98 | 9,461,769 | 17,977,361 | 13,719,56 | 14,489,13 | 120,725 | 138,7 | 29,8 | 140,9 | 158,918 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## ANNEX 3 <br> Global Estimates of Fatalities Caused by Work-related Diseases and Accidents, 2002 Occupational accident and work-related disease figures by World Bank divisions

Table 1b. Occupational accident and work-related disease figures for Established Market Economies, EME (2001)

| Country | Economically active population |  | Total employment | Labour structure |  |  | $\begin{aligned} & \text { Fatal } \\ & \text { accidents } \\ & \text { reported to } \\ & \text { the ILO } \\ & (2001) \end{aligned}$ | Accidents causing 3+ days' absence reported to the ILO (2001) |  | Accident causing 3+ days' absence |  |  | Work-related diseases <br> deaths (age) | Work-related mortality <br> deaths (age) | Deaths caused by dangerous substances <br> number (age) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number | percent | number | Agriculture | Industry | Service |  |  |  | ILO Estimate Lower limit (0,19 \%) | ILO Estimate Upper limit (0,10 \%) | ILO Estimate Average |  |  |  |
| Andorra | 33,000 | 55 | 27,000 | 270 | 5,670 | 21,060 |  |  |  |  |  |  | 19 | 19 | 4 |
| Australia | 9,796,300 | 64 | 9,123,900 | 456,195 | 2,007,258 | 6,660,447 | 210 | 122,930 | 236 | 124,453 | 236,460 | 180,456 | 6,504 | 6,740 | 1,452 |
| Canada | 16,246,200 | 66 | 15,076,800 | 452,304 | 3,467,664 | 11,156,832 | 919 | 373,216 | 1,035 | 544,628 | 1,034,794 | 789,711 | 10,747 | 11,782 | 2,538 |
| Gibraltar | 14,800 | 46 | 13,931 | 0 | 5,572 | 8,359 |  |  |  |  |  |  | 10 | 10 | 2 |
| Iceland | 162,700 | 57 | 159,000 | 56,286 | 21,624 | 94,605 | 1 | 1,318 | 1 | 593 | 1,126 | 859 | 113 | 114 | 25 |
| Japan | 67,520,000 | 53 | 64,120,000 | 3,206,000 | 16,030,000 | 44,884,000 | 1,790 | 132,287 | 2,016 | 1,060,811 | 2,015,540 | 1,538,175 | 45,706 | 47,721 | 10,278 |
| Malta | 155,751 | 40 | 145,587 | 7,279 | 34,941 | 103,367 | 6 | 5,114 | 7 | 3,556 | 6,756 | 5,156 | 104 | 111 | 24 |
| New Zealand | 1,925,700 | 50 | 1,823,400 | 182,340 | 455,850 | 1,185,210 | 69 | 21,633 | 78 | 40,892 | 77,694 | 59,293 | 1,300 | 1,377 | 297 |
| Norway | 2,361,000 | 52 | 2,278,000 | 91,120 | 501,160 | 1,685,720 | 37 | 28,683 | 42 | 21,927 | 41,662 | 31,795 | 1,624 | 1,665 | 359 |
| San Marino | 19,626 | 68 | 11,404 | 114 | 4,790 | 6,500 | 0 | 864 | 1 | 526 | 1,000 | 763 | 8 | 9 | 2 |
| Switzerland | 4,038,734 | 56 | 4,156,000 | 191,176 | 1,093,028 | 2,871,796 | 72 | 91,217 | 81 | 42,669 | 81,072 | 61,871 | 2,962 | 3,044 | 656 |
| United States | 141,815,000 | 50 | 135,073,000 | 3,376,825 | 33,227,958 | 98,468,217 | 5,900 | 2,409,400 | 6,643 | 3,496,526 | 6,643,400 | 5,069,963 | 96,282 | 102,926 | 22,168 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Austria | 3,940,300 | 58 | 3,799,600 | 151,984 | 1,101,884 | 2,545,732 | 122 |  | 137 | 72,301 | 137,372 | 104,837 | 2,708 | 2,846 | 613 |
| Belgium | 4,400,720 | 43 | 4,051,200 | 81,024 | 1,012,800 | 2,957,376 | 69 | 96,321 | 78 | 40,892 | 77,694 | 59,293 | 2,888 | 2,965 | 639 |
| Denmark | 2,862,015 | 78 | 2,725,100 | 109,004 | 463,267 | 2,152,829 | 50 | 43,644 | 56 | 29,632 | 56,300 | 42,966 | 1,942 | 1,999 | 430 |
| Finland | 2,626,000 | 51 | 2,388,000 | 191,040 | 661,476 | 1,535,484 | 64 | 58,276 | 64 | 33,684 | 64,000 | 48,842 | 1,702 | 1,766 | 380 |
| France | 26,384,671 | 44 | 24,113,225 | 964,529 | 6,028,306 | 17,120,390 | 730 | 743,435 | 730 | 384,211 | 730,000 | 557,105 | 17,188 | 17,918 | 3,859 |
| Germany | 39,966,000 | 49 | 36,816,000 | 1,030,848 | 12,296,544 | 23,488,608 | 1,107 | 1,394,485 | 1,107 | 582,632 | 1,107,000 | 844,816 | 26,243 | 27,350 | 5,891 |
| Greece | 4,362,210 | 42 | 3,917,500 | 783,500 | 822,675 | 2,311,325 | 80 | 16,742 | 90 | 47,411 | 90,080 | 68,745 | 2,792 | 2,883 | 621 |
| Ireland | 1,781,900 | 46 | 1,716,500 | 137,320 | 480,620 | 1,098,560 | 66 | 26,200 | 74 | 39,114 | 74,316 | 56,715 | 1,224 | 1,298 | 280 |
| Italy | 23,901,000 | 42 | 21,634,000 | 1,081,700 | 6,922,880 | 13,629,420 | 1,241 | 615,405 | 1,397 | 735,456 | 1,397,366 | 1,066,411 | 15,421 | 16,818 | 3,622 |
| Luxembourg | 189,218 | 44 | 277,000 | 5,540 | 22,160 | 249,300 | 16 | 21,605 | 16 | 8,421 | 16,000 | 12,211 | 197 | 213 | 46 |
| Netherlands | 8,150,000 | 63 | 7,865,000 | 314,600 | 1,808,950 | 5,741,450 | 103 |  | 116 | 61,041 | 115,978 | 88,510 | 5,606 | 5,722 | 1,232 |
| Portugal | 5,211,285 | 52 | 4,999,800 | 499,980 | 1,499,940 | 2,999,880 | 368 | 179,867 | 414 | 218,088 | 414,368 | 316,228 | 3,564 | 3,978 | 857 |
| Spain | 17,814,600 | 45 | 15,945,600 | 956,736 | 4,624,224 | 10,205,184 | 1,030 | 945,570 | 1,160 | 610,411 | 1,159,780 | 885,095 | 11,366 | 12,526 | 2,698 |
| Sweden | 4,415,000 | 49 | 4,239,000 | 84,780 | 1,017,360 | 3,136,860 | 56 | 37,405 | 63 | 33,187 | 63,056 | 48,122 | 3,022 | 3,085 | 664 |
| United Kingdom | 29,638,272 | 50 | 28,225,400 | 282,254 | 7,056,350 | 20,886,796 | 210 | 161,466 | 236 | 124,453 | 236,460 | 180,456 | 20,120 | 20,356 | 4,384 |
| Total | 419,732,002 |  | 394,720,947 | 14,694,748 | 102,674,951 | 277,205,306 | 14,316 | 7,527,083 | 15,879 | 8,357,512 | 15,879,274 | 12,118,393 | 281,364 | 297,243 | 64,019 |
| EU-15 | 175,643,191 |  | 162,712,925 | 6,674,839 | 45,819,436 | 110,059,194 | 5,312 | 4,340,421 | 5,740 | 3,020,932 | 5,739,770 | 4,380,351 | 115,985 | 121,724 | 26,217 |
| EU-12 | 138,727,904 |  | 127,523,425 | 6,198,801 | 37,282,459 | 83,882,709 | 4,996 | 4,097,906 | 5,385 | 2,833,660 | 5,383,954 | 4,108,807 | 90,901 | 96,286 | 20,738 |


| Country | Economically active population |  | $\begin{gathered} \text { Total } \\ \text { employment } \end{gathered}$ | Labour structure |  |  | Work-related fatal accidents by sector |  |  |  |  | ILOEstimateFatal Fatalaccidents | Accident causing 3+ days' absence |  |  | Work-related diseases deaths (age) | Work-related mortality <br> deaths (age) | Deaths caused by dangerous substances number (age) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number | percent | number | Agriculture | Industry | Service | Agriculture | Industry | Serice |  | Accidents causing $3+$ days absence reported to (2001) the ILO |  |  | ILO Estimate Upper limit (0,10 \%) | $\begin{aligned} & \text { ILO } \\ & \text { Estimate } \\ & \text { Average } \end{aligned}$ |  |  |  |
| Albania | 1,347,281 | 44 | 1,063,000 | 531,500 | 265,750 | 265,750 | 56 | 54 | 15 |  |  | 125 | 65,878 | 125,168 | 95,523 | 952 | 1,077 | 231 |
| Armenia | 1,411,700 | 38 | 1,264,900 | 569,205 | 316,225 | 379,470 | 60 | 64 | 22 | 16 | 63 | 146 | 76,826 | 145,969 | 111,398 | 1,133 | 1,279 | 274 |
| Azerbaijan | 3,748,200 | 46 | 3,715,000 | 1,523,150 | 260,050 | 1,931,800 | 160 | 53 | 112 | 27 | 88 | 325 | 170,929 | 324,765 | 247,847 | 3,326 | 3,651 | 783 |
| Belarus | 4,519,500 | 45 | 4,417,400 | 839,306 | 1,369,394 | 2,208,700 | 88 | 278 | 128 | 234 | 6,973 | 494 | 260,115 | 494,219 | 377,167 | 3,955 | 4,450 | 954 |
| Bosnia and Herzegovina | 1,900,000 | 48 |  | 76,000 | 969,000 | 855,000 | 8 | 197 | 50 |  |  | 254 | 133,830 | 254,277 | 194,054 | 1,503 | 1,757 | 377 |
| Bulgaria | 3,412,800 | 50 | 2,751,500 | 715,390 | 852,965 | 1,183,145 | 75 | 173 | 69 | 138 | 5,778 | 317 | 166,784 | 316,890 | 241,837 | 2,464 | 2,781 | 596 |
| Croatia | 1,952,619 | 44 | 1,469,500 | 195,444 | 617,190 | 655,397 | 21 | 125 | 38 | 32 | 21,705 | 184 | 96,750 | 183,824 | 140,287 | 1,316 | 1,500 | 322 |
| $\begin{array}{r} \text { the Czech } \\ \text { Republic (1) } \end{array}$ | 5,172,000 | 60 | 4,728,000 | 236,400 | 1,654,800 | 2,836,800 | 25 | 336 | 165 | 231 | 93,049 | 525 | 276,464 | 525,281 | 400,872 | 4,233 | 4,759 | 1,020 |
| Estonia (1) | 660,800 | 48 | 577,700 | 63,547 | 115,540 | 398,613 | 7 | 23 | 23 | 36 | 3,257 | 53 | 28,025 | 53,247 | 40,636 | 517 | 571 | 122 |
| Georgia | 2,113,000 | 66 | 1,877,600 | 751,040 | 375,520 | 751,040 | 79 | 76 | 44 |  |  | 199 | 104,553 | 198,650 | 151,601 | 1,681 | 1,880 | 403 |
| Hungary (1) | 4,010,700 | 52 | 3,859,500 | 308,760 | 1,042,065 | 2,508,675 | 32 | 212 | 146 | 124 | 25,412 | 389 | 204,980 | 389,462 | 297,221 | 3,456 | 3,845 | 825 |
| Kazakhstan | 7,052,600 | 47 | 6,698,800 | 1,339,760 | 2,009,640 | 3,349,400 | 141 | 408 | 194 |  |  | 743 | 390,998 | 742,897 | 566,948 | 5,998 | 6,741 | 1,445 |
| Kyrgystan | - |  | 1,764,300 | 970,365 | 264,645 | 529,290 | 102 | 54 | 31 |  |  | 186 | 98,058 | 186,310 | 142,184 | 1,580 | 1,766 | 379 |
| Latvia (1) | 1,105,500 | 47 | 1,037,000 | 155,550 | 259,250 | 622,200 | 16 | 53 | 36 | 72 | 1,349 | 105 | 55,288 | 105,048 | 80,168 | 929 | 1,034 | 222 |
| Lithuania (1) | 1,793,800 | 49 | 1,521,800 | 304,360 | 456,540 | 760,900 | 32 | 93 | 44 | 81 | 2,475 | 169 | 88,825 | 168,768 | 128,796 | 1,363 | 1,531 | 328 |
| Makedonia, the former Yogoslav Republic of Macedonia | 862,505 | 40 | 599,308 | 47,945 | 263,696 | 287,668 | 5 | 54 | 17 |  | 1,547 | 75 | 39,605 | 75,249 | 57,427 | 537 | 612 | 131 |
| Moldova | 1,616,700 | 45 | 1,499,000 | 599,600 | 209,860 | 689,540 | 63 | 43 | 40 | 39 | 603 | 146 | 76,607 | 145,553 | 111,080 | 1,342 | 1,488 | 319 |
| Poland (1) | 17,376,000 | 45 | 14,207,000 | 3,906,925 | 3,139,747 | 7,160,328 | 410 | 637 | 415 | 554 | 80,743 | 1,463 | 769,945 | 1,462,895 | 1,116,420 | 12,721 | 14,184 | 3,041 |
| Romania | 11,446,909 | 51 | 10,696,900 | 4,278,760 | 2,674,225 | 3,743,915 | 449 | 543 | 217 | 440 | 6,287 | 1,209 | 636,466 | 1,209,285 | 922,875 | 9,578 | 10,787 | 2,313 |
| the Russian Federation | 69,731,000 | 48 | 64,710,000 | 7,765,200 | 14,883,300 | 42,061,500 | 815 | 3,021 | 2,440 | 4,370 |  | 6,276 | 3,303,275 | 6,276,223 | 4,789,749 | 57,941 | 64,217 | 13,770 |
| Slovakia (1) | 2,634,100 | 49 | 2,123,700 | 191,133 | 785,769 | 1,337,931 | 20 | 160 | 78 | 100 | 20,789 | 257 | 135,358 | 257,180 | 196,269 | 1,902 | 2,159 | 463 |
| Slovenia (1) | 927,000 | 49 | 914,000 | 27,420 | 466,140 | 420,440 | 3 | 95 | 24 | 34 | 40,270 | 122 | 64,153 | 121,891 | 93,022 | 818 | 940 | 202 |
| Tajikistan | 2,500,000 | 30 | 1,143,000 | 765,810 | 91,440 | 285,750 | 80 | 19 | 17 |  |  | 116 | 60,814 | 115,546 | 88,180 | 1,023 | 1,139 | 244 |
| Turkmenistan | 2,340,000 |  |  | 1,123,200 | 351,000 | 865,800 | 118 | 71 | 50 |  |  | 239 | 126,003 | 239,405 | 182,704 | 1,851 | 2,090 | 448 |
| Ukraine | 22,755,000 | 47 | 20,238,100 | 4,857,144 | 6,476,192 | 8,904,764 | 510 | 1,315 | 516 | 1,325 | 32,616 | 2,341 | 1,232,181 | 2,341,143 | 1,786,662 | 18,121 | 20,462 | 4,388 |
| Uzbekistan | 10,700,000 | 37 | 8,885,000 | 3,909,400 | 1,777,000 | 3,198,600 | 410 | 361 | 186 |  |  | 957 | 503,546 | 956,737 | 730,141 | 7,956 | 8,912 | 1,911 |
| Total | 183,089,714 |  | 161,762,008 | 36,052,313 | 41,946,943 | 88,192,416 | 3,785 | 8,515 | 5,115 | 7,853 | 343,004 | 17,416 | 9,166,254 | 17,415,882 | 13,291,068 | 148,194 | 165,610 | 35,512 |

Annex 3
Table 1d. Occupational accident and work-related disease figures for India and China (2001)

| Country | Economically active population |  | Total employment | Labour structure |  |  | Work-related fatal accidents by sector |  |  | Fatal accidents reported to the ILO (2001) | Accidents causing 3+ days' absence reported to the ILO (2001) |  | Accident causing 3+ days' absence |  |  | Work-relate d diseases <br> deaths (age) | Work-relate d mortality <br> deaths (age) | Deaths caused by dangerous substances number (age) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number | percent | number | Agriculture | Industry | Service | Agriculture | Industry | Service |  |  |  | ILO <br> Estimate <br> Lower limit <br> (0,19 \%) | ILO Estimate Upper limit (0,10 \%) | ILO Estimate Average |  |  |  |
| India | 443,860,000 | 43 | 402,510,000 | 241,506,000 | 68,426,700 | 90,564,750 | 22,895 | 12,529 | 4,709 | 222 | 928 | 40,133 | 21,122,666 | 40,133,065 | 30,627,865 | 261,891 | 302,024 | 64,894 |
| China | 737,060,000 | 58 | 730,250,000 | 365,125,000 | 160,655,000 | 204,470,000 | 41,624 | 35,505 | 12,882 | 12,554 | 4,141 | 90,011 | 47,374,008 | 90,010,615 | 68,692,311 |  |  |  |
| Hong Kong | 3,427,100 | 51 | 3,252,300 | 0 | 357,753 | 2,894,547 | 0 | 79 | 182 | 176 | 53,543 | 261 | 137,589 | 261,420 | 199,505 |  |  |  |
| Macao | 216,700 | 51 | 202,800 | 2,028 | 66,924 | 133,848 | 0 | 15 | 8 | 6 | 3,645 | 23 | 12,344 | 23,454 | 17,899 |  |  |  |
| China total | 740,703,800 |  | 733,705,100 | 365,127,028 | 161,079,677 | 207,498,395 | 41,624 | 35,599 | 13,072 | 12,736 | 61,329 | 90,295 | 47,523,941 | 90,295,489 | 68,909,715 | 386,645 | 476,940 | 102,606 |

Table 1e. Occupational accident and work-related disease figures for Other Asia and Islands, OAI (2001)



|  |  |
| :---: | :---: |
|  | 啀年 |
|  |  |
|  |  |
|  |  |
|  |  |




| $\begin{aligned} & \stackrel{⿺ 𠃊 ⿻ 丷 夫 力 口 ~}{\circ} \\ & \stackrel{y}{0} \end{aligned}$ |  |  |  |  |  |  |  |  |  |  |  |  |  | mig |  |  |  | $\underbrace{\prime}_{0}$ |  | $\stackrel{\stackrel{\rightharpoonup}{m}}{ }$ | oٍ |  |  | $0$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  <br> ベ ํ ท |  |  |  |  | 等 | oun oig |  | ${ }^{\infty}$ | $\stackrel{\text { B }}{6}$ |  | $\stackrel{\hat{j}}{\substack{+ \\ \hline}}$ |  |  |  | $\stackrel{\stackrel{\rightharpoonup}{7}}{\sigma}$ | $\stackrel{\text { e．}}{\infty}$ |  |  |  |  |  |
| 長 戔 |  | ${\underset{\sim}{0}}_{\infty}^{\infty} \stackrel{i}{0} \underset{\sim}{N}$ |  |  |  |  |  |  |  | 告 |  |  |  | $\dot{\sim}$ |  | $\underset{\sim}{N}$ |  |  |  | $\stackrel{\infty}{\underset{\sim}{\sim}}$ | $\stackrel{\sqrt[n]{n}}{f}$ |  |  |  |  |  |
|  |  |  |  | 葆 | ম | $\underbrace{\circ}_{\sim}$ |  |  | 8 |  |  | $\infty!$ | ${ }^{\circ} \stackrel{\infty}{0}$ |  |  | $\infty$ |  | $\stackrel{\sim}{\sim}$ |  | － | 9 |  |  |  |  | $\stackrel{\text { ू. 쓱 }}{\substack{0}}$ |







Table 1h. Occupational accident and work-related disease figures for Middle Eastern Crescent, MEC (2001)

| Country | Economically active population |  | Total employment | Labour structure |  |  | Work-related fatal accidents by sector |  |  | Fatal accidents reported to the ILO (2001) | Accidents causing $3+$ days' absence reported to the ILO (2001) |  | Accident causing 3+ days' absence |  |  | Work-related diseases <br> deaths (age) | Work-related mortality <br> deaths (age) | Deaths caused by dangerous substances <br> number (age) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number | percent | number | Agriculture | Industry | Service | Agriculture | Industry | Service |  |  |  | $\begin{gathered} \text { ILO } \\ \text { Estimate } \\ \text { Lower limit } \\ (0,19 \%) \end{gathered}$ | ILO Estimate Upper limit (0,10 \%) | ILO Estimate Average |  |  |  |
| Algeria | 9,400,000 |  | 6,228,772 | 872,028 | 685,165 | 4,671,579 | 229 | 130 | 472 |  |  | 831 | 437,555 | 831,354 | 634,455 | 7,954 | 8,786 | 1,889 |
| Bahrain | 308,341 | 47 | 157,400 | 4,722 | 55,090 | 97,588 | 1 | 10 | 10 | 10 | 1,682 | 22 | 11,350 | 21,565 | 16,458 | 201 | 223 | 48 |
| Cyprus (Greek) | 315,395 | 48 | 309,500 | 15,475 | 68,090 | 225,935 | 4 | 13 | 23 | 9 | 2,357 | 40 | 20,961 | 39,826 | 30,394 | 395 | 435 | 94 |
| Egypt | 19,253,000 | 30 | 17,556,700 | 5,091,443 | 3,862,474 | 8,602,783 | 1,339 | 734 | 869 | 130 | 32,649 | 2,942 | 1,548,316 | 2,941,801 | 2,245,058 | 22,421 | 25,362 | 5,452 |
| Iran | 21,000,000 |  |  | 6,300,000 | 5,250,000 | 9,450,000 | 1,657 | 998 | 954 |  |  | 3,609 | 1,899,395 | 3,608,850 | 2,754,122 | 15,161 | 18,770 | 4,035 |
| Iraq | 6,500,000 |  |  | 780,000 | 520,000 | 5,200,000 | 205 | 99 | 525 |  |  | 829 | 436,389 | 829,140 | 632,765 | 4,693 | 5,522 | 1,187 |
| Israel | 2,503,300 |  | 2,422,300 | 72,669 | 678,244 | 1,671,387 | 19 | 129 | 169 | 100 | 69,087 | 317 | 166,731 | 316,788 | 241,760 | 3,093 | 3,410 | 733 |
| Jordan | 1,360,000 | - |  | 68,000 | 176,800 | 1,115,200 | 18 | 34 | 113 |  |  | 164 | 86,374 | 164,111 | 125,243 | 982 | 1,146 | 246 |
| Kuwait | 23,363,000 | 41 | 1,243,126 | 12,431 | 111,881 | 1,118,813 | 3 | 21 | 113 |  |  | 138 | 72,383 | 137,527 | 104,955 | 1,588 | 1,725 | 371 |
| Lebanon | 1,362,231 | 34 |  | 190,712 | 367,802 | 790,094 | 50 | 70 | 80 |  |  | 200 | 105,179 | 199,839 | 152,509 | 983 | 1,183 | 254 |
| the Libyan <br> Arab <br> Jamahiriya | 1,500,000 | 29 |  | 255,000 | 435,000 | 810,000 | 67 | 83 | 82 |  |  | 232 | 121,855 | 231,525 | 176,690 | 1,083 | 1,314 | 283 |
| Morocco | 10,604,734 | 36 | 9,329,755 | 4,664,878 | 1,399,463 | 3,265,414 | 1,227 | 266 | 330 |  |  | 1,823 | 959,246 | 1,822,568 | 1,390,907 | 11,914 | 13,737 | 2,953 |
| Oman | 365,889 | 20 | 70,486 | 35,243 | 15,507 | 20,441 | 9 | 3 | 2 |  |  | 14 | 7,516 | 14,280 | 10,898 | 90 | 104 | 22 |
| Qatar | 280,122 | 54 |  | 8,404 | 78,434 | 193,284 | 2 | 15 | 20 |  |  | 37 | 19,281 | 36,634 | 27,958 | 202 | 239 | 51 |
| Saudi Arabia | - | - | 5,808,617 | 697,034 | 1,452,154 | 3,659,429 | 183 | 276 | 370 |  |  | 829 | 436,227 | 828,832 | 632,529 | 7,418 | 8,247 | 1,773 |
| the Syrian Arab <br> Republic | 5,457,375 | 33 | 4,844,020 | 1,937,608 | 968,804 | 1,937,608 | 510 | 184 | 196 |  |  | 889 | 468,085 | 889,362 | 678,724 | 6,186 | 7,075 | 1,521 |
| Tunisia | 2,978,334 | 32 | 2,704,900 | 595,078 | 622,127 | 1,487,695 | 157 | 118 | 150 | 159 | 45,827 | 425 | 223,667 | 424,967 | 324,317 | 3,454 | 3,879 | 834 |
| Turkey | 22,269,000 | - | 20,367,000 | 8,146,800 | 4,480,740 | 7,739,460 | 2,143 | 851 | 782 | 1,008 | 2,183 | 3,776 | 1,987,176 | 3,775,634 | 2,881,405 | 26,009 | 29,785 | 6,403 |
| the United Arab Emirates | 1,400,000 | 58 | 1,779,000 | 124,530 | 266,850 | 1,387,620 | 33 | 51 | 140 |  |  | 224 | 117,686 | 223,603 | 170,644 | 2,272 | 2,495 | 536 |
| Yemen | 5,000,000 | 29 | 3,621,679 | 1,448,672 | 434,601 | 1,738,406 | 381 | 83 | 176 |  |  | 639 | 336,397 | 639,154 | 487,775 | 4,625 | 5,264 | 1,132 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 135,220,721 |  | 76,443,255 | 31,320,726 | 21,929,228 | 55,182,736 | 8,237 | 4,167 | 5,573 | 1,416 | 153,785 | 17,977 | 9,461,769 | 17,977,361 | 13,719,565 | 120,725 | 138,702 | 29,817 |

## ANNEX 4

## Some national and international OSH development and activities, 2004-2005

## Major progress in the development of national OSH and inspection policies

18 countries have developed national OSH profiles based on ILO guidance, namely Azerbaijan, Benin, China, Egypt, Georgia, Guatemala, Iraq, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Mexico, Mongolia, Pakistan, Uganda, United Republic of Tanzania, Uzbekistan and Yemen while national OSH profiles are being prepared in others: Algeria, Costa Rica, Croatia, Iran, Malaysia, Mozambique, Nicaragua, Panama, Seychelles, Sri Lanka, Tajikistan, Vietnam.
9 countries included OSH aspects in their national plans of action for Decent Work: Bangladesh, Ethiopia, Guatemala, India, Morocco, Nepal, Nicaragua, Panama, Sri Lanka, while Panama, Nicaragua and Guatemala are developing the OSH component of the Decent work national programmes.
35 countries made progress in this area, including:

- the adoption of a new OSH Act or revision of present legislation in Ethiopia, Ireland, Kazakhstan, Kenya, Kyrgyzstan, Lebanon, Morocco, Nigeria, Saudi Arabia, Uganda, United Arab Emirates, United Republic of Tanzania
- setting up a National Safety and Health Committees: Algeria has set up a new NIOSH and revitalized its tripartite Conseil supérieur de la Prévention, Argentina, Botswana and Columbia, in the United Arab Emirates, the OSH Unit of the Ministry of Labour is being restructured. Serbia is revitalising its National Council on OSH.
- Signing agreements/accords with a key component on OSH Azerbaijan, Kazakhstan, Russia, South Africa, Tajikistan, and Uzbekistan. An agreement signed with the Gulf Cooperation Council resulted with ILO assistance in the revision of legislation in the field of OSH and the preparation of OSH guides for the oil and petrochemical industries. A collaboration agreement signed by the IAPRP (Inter-Africaine de Prévention des risques Professionnels) with particular focus on the development of a specialised university degree for occupational physicians. Protocols of Cooperation have been signed between the Polish National Labour Inspection and counterparts in Bulgaria, Serbia and Ukraine
- implementation of legislative reform on integrated labour inspection: Armenia, Bulgaria, Chile, Costa Rica, Vietnam, Serbia. Laos included the development of an integrated labour inspection into their 5-year national action plan.
Elsewhere, projects to strengthen the capacity of labour inspectorates have been sponsored by the ILO, its partners and donor organisations. In the Republic of Serbia, for example, a 2-year long project to improve the effectiveness of the labour inspectorate and social partners has almost been finished.
The Nordic countries (Finland, Island, Norway, Sweden, and Denmark) developed the so-called "scoreboard", a tool to measure and compare performances of their labour inspectorates but intended for use in other EU countries as well. The idea has been taken up in Africa, where Ministers in ARLAC approved an action plan for strengthening labour inspection and an integrated system, with an African version of the Scoreboard.


## Launching of national OSH programmes

National OSH programmes were launched in several countries:

- Brazil and South Africa: a National Programme for the Elimination of Silicosis was launched - for Brazil on the occasion of the World Safety Day 2004
- Kazakhstan: a new national OSH programme was approved
- Kyrgyzstan: the present OSH programme updated, implementing a programme on OSH in agriculture
- Mongolia: launched a national OSH programme in 2005
- Russia: the national OSH programme 2003-2015 was adopted by the Russian Academy of Medical Science \& the Ministry of Health.
- Thailand: a National OSH programme was launched in 2003
- Brazil, Mexico and South Africa launched action programmes for OSH and supply chain management, driven by national authorities.
- Moldova: a national programme on labour protection in the agricultural sector was adopted by Parliamentary Resolution in 2003, detailing actions, responsible agencies and a time frame.

Ratification of ILO Conventions and application of code of practices, guides etc
The ILO has received 29 notifications of ratifications from 18 member States for the following Conventions: No. 81: Albania, Armenia, Estonia, Indonesia, Ukraine;
No. 129: Estonia, Ukraine, No. 148: Poland, Lebanon No. 152: Lebanon, Russian Federation, Turkey, No 155 : Albania (and P 155), Australia, Finland ( P 155), Sao Tome and Principe, Turkey, El Salvador (P 155); No. 161: Poland, Turkey; No.162: Japan; No. 167: Uruguay, No. 170: Poland No. 174: Belgium, Lebanon; No. 184: Kyrgyzstan, Sao Tome and Principe, Sweden, Uruguay.
The European Union adopted the EU "Common principles" which are based on ILO Convention 81 and valid for 25 EU Member/ Accession States. The Minister of Labour of Luxembourg officially declared to ratify 21 OSH conventions as a result of an ILO Labour Inspection Audit.
The 10th International Conference on Occupational Respiratory Diseases (10th ICORD), organized jointly with the government of China (April 2005) paved the way for future ratifications of Conventions No. 139, 161, 162 and 170. It also provided a new impetus for national, regional and international action and strengthened cooperation with WHO, ICOH and IOHA.

## OSH Management Systems

The 2003 Conference Conclusions emphasised the promotion and implementation of a systems approach to the management of OSH, using the guidance provided by the ILO Guidelines on Occupational Safety and Health Management Systems (ILO-OSH 2001). Promotion and dissemination of ILO-OSH 2001 continues with the guidelines now available in 21 languages (Arabic, Bulgarian, Chinese, Czech, English, Finnish, French, Georgian, German, Hebrew, Hindi, Japanese, Korean, Malay, Polish, Portuguese, Russian, Spanish, Thai, Urdu and Vietnamese). SafeWork has expanded its website to include the translated versions for downloading as well as providing links to other sites.

Many countries, such as Argentina, Ireland and Israel, have officially adopted ILO-OSH 2001 as the national basis for their own OSH management systems, while others, such as Japan, China and Malaysia, adopted their own standard based on Guidelines. France
adopted the Guidelines by means of a tripartite resolution by its national standards organisation, AFNOR. Indonesia adopted new legislation requiring every enterprise to apply an equivalent national standard. China promoted their national guidelines and have so far certified 4,000 enterprises and registered 47,000 auditors.
Work Improvement in Neighbourhood Development (WIND) methodology used to improve working and living conditions, safety and health in rural communities:
WIND activities took place in Ethiopia, where the programme is being introduced into the Decent Work Country Programme targeting the reduction of vulnerability of rural communities. In Ethiopia and Kenya, case studies with good practices on workers' nutrition were established to be part of an international publication on workers' nutrition
The WIND methodology was adapted to small-scale rural informal sector in Kyrgyzstan, and a WIND manual is ready in Kyrgyz and Russian. Projects are under development in Moldova and Senegal.

## Specific hazards and risks

## Asbestos

See also the main body of text on this subject. Several more countries have introduced a partial or complete ban on the use of Asbestos, including Argentina, Australia, Egypt, Gabon and Lithuania. Brazil is in the process of letting it phase out, which will increase the number of countries who have banned and restricted use of asbestos to 34 .
Psychosocial issues
In 2004, 20 countries adopted an action programme based on psychosocial issues (SOLVE): Burkina Faso, Belgium, Benin, Brazil, Cameroon, Canada, Cote d'Ivoire, India, Italy, Malaysia, Namibia, Philippines, Senegal, South Africa, Sri Lanka, Swaziland, Switzerland and Thailand, USA, Zambia.
In 2005, 7 additional countries have engaged in programmes related to SOLVE including Bulgaria, Cyprus, India, Ireland, Nepal, Spain and the United Kingdom. In addition, two major North American Trade Unions, the International Association of Machinists and Aerospace Workers and the Quebec Federation of Labour have adopted the SOLVE Programme. Also a number of employers are using SOLVE to address psychosocial problems at work.

## HIV/AIDS strategies

Much more information about HIV/AIDS programmes in the workplace is available elsewhere. Here it may be noted that several Regions have been taking positive action to integrate policies and programmes on HIV/AIDS and labour inspection. For example, Jordan, Lebanon and Syria prepared a Regional Strategy for HIV/AIDS prevention, care and reduction of vulnerability in priority areas of action, and labour inspectors have been fully trained on HIV/AIDS using ILO materials.
In 2005, the ILO produced a publication entitled "A handbook on HIV/AIDS for labour and factory inspectors".

## Hazardous child labour

Collaboration to combat hazardous child labour has continued at international and national levels. The ILO has given assistance to several countries in the preparation of lists of hazardous work, in developing training manuals on combating hazardous child labour and in setting up child labour monitoring units.

## Annex 5

## Estimated annual average number of deaths attributable to occupational exposure to hazardous substances by condition, world

| Causes of death | No. of deaths |  | Estimated percentage attributed to hazardous substances |  | No. of deaths attributed to hazardous substances |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Men | Women | Men | Women |  |
| Cancer (Total) |  |  |  |  | 314,939 |
| Lung cancer and mesothelioma | 996,000 | 333,000 | 15\% | 5\% | 166,050 |
| Liver cancer | 509,000 | 188,000 | 4\% | 1\% | 22,240 |
| Bladder cancer | 128,000 | 42,000 | 10\% | 5\% | 14,900 |
| Leukemia | 117,000 | 98,000 | 10\% | 5\% | 16,600 |
| Prostate cancer | 253,000 |  | 1\% |  | 2,530 |
| Cancer of mouth | 250,000 | 127,000 | 1\% | 0.50\% | 3,135 |
| Cancer of oesophagus | 336,000 | 157,000 | 1\% | 0.50\% | 3,517 |
| Stomach cancer | 649,000 | 360,000 | $1 \%$ | 0.5 \% | 8,290 |
| Colorectal cancer | 308,000 | 282,000 | 1\% | 0.50\% | 4,490 |
| Skin cancer | 30,000 | 28,000 | 10\% | 2\% | 3,560 |
| Pancreas cancer | 129,000 | 99,000 | 1\% | 0.50\% | 1,785 |
| Other and unspecified cancer | 819,000 | 1,350,000 | 6.80\% | 1.20\% | 71,892 |
| Cardiovascular disease, 15-60 years | 3,074,000 |  | 1\% | 1\% | 30,740 |
| Nervous system disorders, $15+$ years | 658,000 |  | 1\% | 1\% | 6,580 |
| Renal disorders, $15+$ years | 710,000 |  | 1\% | 1\% | 7,100 |
| Chronic respiratory disease, $15+$ years | 3,550,000 |  | 1\% | 1\% | 35,500 |
| Pneumoconiosis, estimate | 36,000 |  | 100\% | 100\% | 36,000 |
| Asthma, 15 + years | 179,000 |  | 2\% | 2\% | 3,580 |
|  |  |  |  | TOTAL | 438,489 |

Introductory Report: Decent Work - Safe Work


Annexes 6

| ILO member countries | $\begin{gathered} \text { C13 } \\ (1921) \end{gathered}$ | $\begin{gathered} \text { C45 } \\ (1935) \end{gathered}$ | $\underset{(1947)}{C 81}$ | $\begin{gathered} \text { C115 } \\ (1960) \end{gathered}$ | $\begin{gathered} \text { C119 } \\ \text { (1963) } \end{gathered}$ | $\begin{gathered} \text { C120 } \\ (1964) \end{gathered}$ | $\begin{gathered} \text { C127 } \\ (1967) \end{gathered}$ | $\begin{gathered} \text { C129 } \\ (1969) \end{gathered}$ | $\begin{gathered} \text { C136 } \\ (1971) \end{gathered}$ | $\begin{gathered} \text { C139 } \\ \text { (1971) } \end{gathered}$ | $\begin{gathered} \text { C148 } \\ \text { (1977) } \end{gathered}$ | $\begin{gathered} \text { C155 } \\ \text { (1981) } \end{gathered}$ | $\begin{gathered} \text { C161 } \\ \text { (1985) } \end{gathered}$ | $\begin{gathered} \text { C162 } \\ \text { (1986) } \end{gathered}$ | $\begin{gathered} \text { C167 } \\ (1988) \end{gathered}$ | $\begin{gathered} \text { C170 } \\ (1990) \end{gathered}$ | $\begin{gathered} \text { C174 } \\ \text { (1993) } \end{gathered}$ | $\begin{gathered} \text { C176 } \\ \text { (1995) } \end{gathered}$ | $\begin{gathered} \text { C184 } \\ (2001) \end{gathered}$ | $\begin{gathered} \text { P81 } \\ (1995) \end{gathered}$ | $\begin{gathered} \text { P155 } \\ \text { (2002) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| the Congo | 1960 |  | 1999 |  | 1964 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| the Democratic Republic of the Congo |  |  | 1968 |  | 1967 | 1967 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Côte d'Ivoire | 1960 | 1961 | 1987 |  |  |  |  | 1987 | 1973 |  |  |  |  |  |  |  |  |  |  |  |  |
| Croatia | 1991 | 1991 | 1991 |  | 1991 |  |  | 1991 | 1991 | 1991 | 1991 | 1991 | 1991 | 1991 |  |  |  |  |  |  |  |
| Cuba | 1928 | 1936 | 1954 |  |  | 1971 |  |  | 1972 |  | 1980 | 1982 |  |  |  |  |  |  |  |  |  |
| Cyprus |  | 1960 | 1960 |  | 1965 |  |  |  |  |  |  | 1989 |  | 1992 |  |  |  |  |  | 2000 |  |
| the Czech Republic | 1993 | 1993 |  | 1993 |  | 1993 |  |  | 1993 | 1993 | 1993 | 1993 | 1993 |  | 1993 |  |  | 2000 |  |  |  |
| Denmark |  |  | 1958 | 1974 | 1989 | 1970 |  | 1972 |  | 1978 | 1988 | 1995 |  |  | 1995 |  |  |  |  |  |  |
| Djibouti | 1978 | 1978 | 1978 | 1978 |  | 1978 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Dominica |  |  | 1983 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| the Dominican Republic |  | 1957 | 1953 |  | 1965 |  |  |  |  |  |  |  |  |  | 1998 |  |  |  |  |  |  |
| Ecuador |  | 1954 | 1975 | 1970 | 1969 | 1969 | 1969 |  | 1975 | 1975 | 1978 |  |  | 1990 |  |  |  |  |  |  |  |
| Egypt |  | 1947 | 1956 | 1964 |  |  |  | 2003 |  | 1982 | 1988 |  |  |  |  |  |  |  |  |  |  |
| El Salvador |  |  | 1995 |  |  |  |  | 1995 |  |  |  | 2000 |  |  |  |  |  |  |  |  | 2004 |
| Equatorial Guinea |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Eritrea |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Estonia | 1922 | 1937 | 2005 |  |  |  |  | 2005 |  |  |  |  |  |  |  |  | 2000 |  |  |  |  |
| Ethiopia |  |  |  |  |  |  |  |  |  |  |  | 1991 |  |  |  |  |  |  |  |  |  |
| Fiji |  | 1974 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Finland | 1929 | $1938{ }^{3}$ | 1950 | 1978 | 1969 | 1968 |  | 1974 | 1976 | 1977 | 1979 | 1985 | 1987 | 1988 | 1997 |  |  | 1997 | 2003 | 1997 | 2003 |
| France | 1926 | 1938 | 1950 | 1971 |  | 1972 | 1973 | 1972 | 1972 | 1994 | 1985 |  |  |  |  |  |  |  |  |  |  |
| Gabon | 1960 | 1961 | 1972 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| the Gambia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Georgia |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Germany |  | 1954 | 1955 | 1973 |  | 1973 |  | 1973 | 1973 | 1976 | 1993 |  | 1994 | 1993 | 1993 |  |  | 1998 |  |  |  |
| Ghana |  | 1957 | 1959 | 1961 | 1965 | 1966 |  |  |  |  | 1986 |  |  |  |  |  |  |  |  |  |  |
| Greece | 1926 | 1936 | 1955 | 1982 |  |  |  |  | 1977 |  |  |  |  |  |  |  |  |  |  |  |  |
| Grenada |  |  | 1976 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Guatemala | 1990 | 1960 | 1952 |  | 1964 | 1975 | 1983 | 1994 |  |  | 1996 |  | 1989 | 1989 | 1991 |  |  |  |  |  |  |
| Guinea | 1959 | 1966 | 1959 | 1966 | 1966 | 1966 |  |  | 1977 | 1976 | 1982 |  |  |  |  |  |  |  |  |  |  |
| Guinea-Bissau |  | 1977 | 1977 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Guyana |  | 1966 | 1966 | 1966 |  |  |  | 1971 | 1983 | 1983 |  |  |  |  |  |  |  |  |  | 1998 |  |
| Haiti |  | 1960 | 1952 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Honduras |  | 1960 | 1983 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hungary | 1956 | 1938 | 1994 | 1968 |  |  | 1994 | 1994 | 1972 | 1975 | 1994 | 1994 | 1988 |  | 1989 |  |  |  |  |  |  |
| Iceland |  |  |  |  |  |  |  |  |  | 1991 |  | 1991 |  |  |  |  |  |  |  |  |  |
| India |  | 1938 | 1949 | 1975 |  |  |  |  | 1991 |  |  |  |  |  |  |  |  |  |  |  |  |
| Indonesia |  | 1950 | 2004 |  |  | 1969 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Iran |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Introductory Report: Decent Work - Safe Work


```
Annexes 6
```

| ¿io |  |  | $\begin{aligned} & \circ \\ & \hline \end{aligned}$ |  |  |  |  |  |  | $\stackrel{\infty}{\stackrel{\infty}{-}}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 苞 |  |  |  |  |  |  |  |  |  |  |  |  |  | $\stackrel{\sim}{\circ}$ |  |  |  |  | ¢ |  |  |  |
|  |  |  | $\stackrel{\circ}{\circ}$ |  |  |  | $\stackrel{\infty}{\stackrel{\infty}{\circ}} \stackrel{-}{\sim}$ | $\stackrel{\rightharpoonup}{\mathrm{O}} \mathrm{~N}$ |  |  |  |  |  |  |  |  |  |  | $\stackrel{\infty}{\stackrel{\circ}{-}}$ |  | -৪ | or |
| 츨을 | $\stackrel{\underset{\sim}{\lambda}}{\underset{\sigma}{2}}$ |  |  |  |  |  |  |  |  |  |  |  |  |  | $\stackrel{\rightharpoonup}{\circ}$ |  |  |  |  |  |  |  |
| $\begin{aligned} & \text { 승 } \\ & \text { ㄱ융 } \end{aligned}$ |  |  | $\stackrel{\cong}{\circ}$ |  |  |  |  | $\stackrel{\circ}{\circ}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \hat{0}_{0}^{\infty} \\ & \vdots 0 \\ & 0 \end{aligned}$ |  |  | $\stackrel{-}{\sigma}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\stackrel{\text { ® }}{\text { - }}$ |  |  |  |
| No | $\begin{aligned} & \text { O} \\ & \hline-9 \end{aligned}$ |  | $\stackrel{\AA}{\Omega}$ |  |  |  |  | 윽 |  | O- |  |  |  |  |  | ৪ |  |  |  | $\underset{\sim}{\underset{\sim}{\sim}}$ |  | $\stackrel{\circ}{\circ}$ |
|  |  |  |  |  |  |  |  | ষ |  |  |  |  | $\begin{aligned} & \infty \\ & \infty \\ & \hdashline \\ & \hline \end{aligned}$ |  |  | ৪ |  |  | $\stackrel{\text { ® }}{\stackrel{-1}{-}}$ | $\underset{\sim}{\underset{\sim}{\sim}}$ |  |  |
| $\stackrel{n}{0} \stackrel{0}{0}$ | ন্ত |  | $\underset{\sim}{\circ} \underset{\sim}{\circ}$ |  |  |  |  | $\begin{aligned} & \stackrel{\circ}{\infty} \\ & \stackrel{\sim}{\sim} \end{aligned}$ |  | $\stackrel{\infty}{\circ}$ |  |  |  | $\stackrel{\sim}{\circ}$ |  | ষ |  |  | $\stackrel{\Pi}{\Omega}$ | 푝 | ¢ | $\begin{aligned} & \stackrel{\leftrightarrow}{\infty} \\ & \stackrel{\Omega}{-} \end{aligned}$ |
|  |  | $\stackrel{\text { ® }}{\sim}$ | $\begin{aligned} & \stackrel{\circ}{\sigma} \\ & \underset{\sim}{7} \end{aligned}$ |  |  |  |  | $\stackrel{\rightharpoonup}{\circ} \stackrel{\rightharpoonup}{\circ}$ |  | $\begin{aligned} & \infty \\ & \infty \\ & \end{aligned}$ |  |  | $\begin{aligned} & \infty \\ & \infty \\ & \underset{\sim}{\circ} \end{aligned}$ |  |  | O-৪ | ুু |  | $\stackrel{ু}{\sigma}$ | $\underset{\sim}{\circ}$ |  | $\begin{aligned} & \circ \\ & \stackrel{\circ}{-} \end{aligned}$ |
| ল্লu A |  | $\begin{aligned} & \stackrel{\infty}{\infty} \\ & \stackrel{\sim}{2} \end{aligned}$ | $\stackrel{\star}{\boldsymbol{\sigma}}$ |  |  | $\begin{aligned} & \stackrel{0}{9} \\ & \stackrel{7}{9} \end{aligned}$ |  | ুু |  |  |  |  |  |  |  | $\stackrel{\circ}{\circ}$ |  |  | $\stackrel{\text { ® }}{\text { - }}$ | ুㅡㄱ |  |  |
| $\underset{\substack{0 \\ 0 \\ \underset{\sim}{0} \\ \hline}}{ }$ |  | $\begin{aligned} & \vec{\infty} \\ & \stackrel{\sim}{-} \end{aligned}$ |  |  |  |  |  |  | $\stackrel{\llcorner }{\underset{\sim}{\sim}}$ |  |  |  |  |  |  | $\stackrel{\circ}{\mathrm{o}}$ |  |  | $\stackrel{\text { ® }}{\sim}$ | $\underset{\sim}{\sim}$ |  | $\stackrel{n}{\stackrel{m}{\Omega}}$ |
| 둥 | $\stackrel{n}{\underset{-}{\pi}}$ |  | $\stackrel{\rightharpoonup}{\mathrm{N}}$ |  |  |  |  | $\stackrel{\curvearrowleft}{\circ} \stackrel{\infty}{\circ}$ | $\stackrel{\varrho}{\underset{\sim}{\circ}}$ |  |  |  |  |  |  | O- |  |  |  | N |  | $\stackrel{\rightharpoonup}{\text { ® }}$ |
|  |  | $\begin{aligned} & 0 \\ & \stackrel{0}{0} \end{aligned}$ |  |  | $\frac{0}{2}$ |  |  | $\stackrel{n}{\infty} \stackrel{\circ}{\underset{\sim}{\circ}} \stackrel{\infty}{\Omega}$ | $\stackrel{\llcorner }{\underset{\sim}{\Omega}}$ |  |  |  |  |  |  |  |  |  |  |  |  | ¢0\% |
| 엉 |  |  | $\begin{aligned} & \stackrel{\circ}{\circ} \\ & \underset{\sim}{2} \end{aligned}$ |  |  | $\stackrel{\stackrel{\rightharpoonup}{\circ}}{\stackrel{-}{2}}$ |  | $\begin{aligned} & \stackrel{\infty}{\circ} \stackrel{\infty}{\circ} \\ & \stackrel{\circ}{-} \end{aligned}$ |  | $\stackrel{\hat{\circ}}{-}$ |  |  |  |  | $\stackrel{\circ}{\circ}$ |  |  |  | $\stackrel{\text { ® }}{\text { / }}$ |  |  | $\stackrel{\circ}{\circ}$ |
| $\begin{aligned} & \text { O- } \\ & \text {-10 } \\ & 0 \end{aligned}$ |  | - | ö |  | 合 | $\stackrel{\hat{\circ}}{-}$ |  | $\stackrel{\hat{\rightharpoonup}}{\boldsymbol{\jmath}}$ |  | $\begin{aligned} & \stackrel{\circ}{\circ} \\ & \stackrel{\circ}{7} \end{aligned}$ |  |  | $\begin{aligned} & \infty \\ & \infty \\ & \underset{\sim}{\infty} \end{aligned}$ |  |  | ষ্ণ | $\bigcirc$ |  |  | N/ |  | $\stackrel{\rightharpoonup}{\text { ® }}$ |
|  | $\begin{aligned} & \bullet \\ & \stackrel{\circ}{-} \end{aligned}$ | $\begin{aligned} & \stackrel{\infty}{\infty} \\ & \stackrel{-}{\circ} \end{aligned}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{0} \\ & \stackrel{\rightharpoonup}{7} \end{aligned}$ |  |  | $\stackrel{\stackrel{\rightharpoonup}{\theta}}{\underset{\sim}{2}}$ |  |  |  | $\begin{aligned} & \hat{\varrho} \\ & \stackrel{\rightharpoonup}{9} \end{aligned}$ |  |  |  |  |  |  |  |  | $\stackrel{\text { ® }}{\text { - }}$ |  |  | \% \% |
| © |  | $\stackrel{\square}{\circ}$ | $\stackrel{\circ}{\circ}$ | $\underset{\sim}{\Omega}$ |  | $\begin{aligned} & \hat{\circ} \text { ö } \\ & \stackrel{\circ}{\circ} \end{aligned}$ |  | $\stackrel{\Omega}{\circ}$ | $\stackrel{0}{\circ} \stackrel{n}{\sigma}$ | $\stackrel{\infty}{\circ}{ }_{-\infty}^{\circ}$ |  | $\stackrel{\infty}{\circ}$ |  | $\stackrel{\infty}{\infty}$ | $\begin{aligned} & \infty \\ & \stackrel{\infty}{-} \stackrel{\rightharpoonup}{\circ} \\ & \hline- \end{aligned}$ | ৪ |  | - |  | $\underset{\sim}{\underset{\sim}{\sim}} \stackrel{\circ}{\circ}$ |  | $\stackrel{\circ}{\circ} \stackrel{\circ}{\circ}$ |
| in in in | $\begin{aligned} & \stackrel{\star}{N} \stackrel{\sim}{0} \\ & \underset{\sim}{\sim} \\ & \hline \end{aligned}$ | $\begin{aligned} & \bullet \\ & \stackrel{\circ}{-} \end{aligned}$ |  | $\begin{aligned} & \infty \\ & \end{aligned}$ | $\stackrel{9}{\circ} \stackrel{\circ}{-1} \stackrel{0}{-1}$ | $\begin{aligned} & \text { in } \\ & \underset{\sim}{2} \end{aligned}$ |  |  |  | $\stackrel{\rightharpoonup}{\mathrm{O}}$ |  |  |  |  | $\begin{aligned} & \infty \\ & \hline-\underset{\sim}{2} \end{aligned}$ | ষ |  |  |  | $\begin{aligned} & \underset{\sim}{\circ} \stackrel{\circ}{-\infty} \\ & \underset{\sim}{\circ} \end{aligned}$ |  | $\stackrel{\infty}{\circ} \stackrel{\circ}{\Omega}$ |
| m | $\begin{aligned} & \underset{\sim}{3} \\ & \underset{\sim}{2} \end{aligned}$ | $\begin{aligned} & \stackrel{\rightharpoonup}{0} \\ & \underset{\sim}{9} \\ & \hline \end{aligned}$ | $\stackrel{\stackrel{\sim}{\sigma}}{\sim}$ |  |  |  |  | $\stackrel{\text { ® }}{\sim}$ | $\stackrel{\sim}{\sim}$ | - |  |  |  |  | $\begin{aligned} & \stackrel{\circ}{\circ} \\ & \stackrel{-}{2} \end{aligned}$ | O-O |  |  | $\stackrel{\text { ¢ }}{\text { - }}$ | \% |  | ন |
|  |  |  |  | $\begin{aligned} & \frac{\pi}{0} \\ & \stackrel{H}{5} \\ & \stackrel{N}{0} \end{aligned}$ |  |  |  |  |  |  | n <br> $\frac{0}{2}$ <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 |  |  |  |  |  |  |  | $\frac{\pi}{2}$ <br> $\frac{0}{0}$ <br> in |  |  |  |

Introductory Report: Decent Work - Safe Work

| ILO member countries | $\begin{gathered} \text { C13 } \\ (1921) \end{gathered}$ | $\begin{gathered} \text { C45 } \\ (1935) \end{gathered}$ | $\begin{gathered} \text { C81 } \\ (1947) \end{gathered}$ | $\begin{gathered} \text { C115 } \\ \text { (1960) } \end{gathered}$ | $\begin{gathered} \text { C119 } \\ \text { (1963) } \end{gathered}$ | $\begin{gathered} \text { C120 } \\ \text { (1964) } \end{gathered}$ | $\begin{gathered} \text { C127 } \\ \text { (1967) } \end{gathered}$ | $\begin{gathered} \text { C129 } \\ (1969) \end{gathered}$ | $\begin{gathered} \text { C136 } \\ \text { (1971) } \end{gathered}$ | $\begin{gathered} \text { C139 } \\ \text { (1971) } \end{gathered}$ | $\begin{gathered} \text { C148 } \\ \text { (1977) } \end{gathered}$ | $\begin{gathered} \text { C155 } \\ \text { (1981) } \end{gathered}$ | $\begin{gathered} \text { C161 } \\ \text { (1985) } \end{gathered}$ | $\begin{gathered} \text { C162 } \\ \text { (1986) } \end{gathered}$ | $\begin{gathered} \text { C167 } \\ \text { (1988) } \end{gathered}$ | $\begin{gathered} \text { C170 } \\ (1990) \end{gathered}$ | $\begin{gathered} \text { C174 } \\ \text { (1993) } \end{gathered}$ | $\begin{gathered} \text { C176 } \\ (1995) \end{gathered}$ | $\begin{gathered} \text { C184 } \\ (2001) \end{gathered}$ | $\begin{gathered} \text { P81 } \\ (1995) \end{gathered}$ | $\begin{gathered} \text { P155 } \\ \text { (2002) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| the Sudan |  |  | 1970 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Suriname | 1976 |  | 1976 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Swaziland |  | 1981 | 1981 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Sweden | 1923 | $1936{ }^{6}$ | 1949 | 1961 | 1964 | 1965 |  | 1970 |  | 1975 | 1978 | 1982 | 1986 | 1987 | 1991 | 1992 | 1994 | 1997 | 2004 | 1997 |  |
| Switzerland |  | 1940 | 1949 | 1963 | 1992 | 1966 |  |  | 1975 | 1976 |  |  |  | 1992 |  |  |  |  |  |  |  |
| the Syrian Arab Republic |  | 1960 | 1960 | 1964 | 1965 | 1965 |  | 1972 | 1977 | 1979 |  |  |  |  |  |  |  |  |  |  |  |
| Tajikistan |  | 1993 |  | 1993 | 1993 | 1993 |  |  |  |  | 1993 |  |  |  |  |  |  |  |  |  |  |
| the United Republic of Tanzania |  | 1962 | 1962 |  |  |  |  |  |  |  | 1983 |  |  |  |  | 1999 |  |  |  | 1999 |  |
| Thailand |  |  |  |  |  |  | 1969 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Timor-Leste |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Togo | 1960 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Trinidad and Tobago |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tunisia | 1956 | 1957 | 1957 |  | 1970 | 1970 | 1970 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Turkey |  | 1938 | 1951 | 1968 | 1967 |  | 1975 |  |  |  |  | 2005 | 2005 |  |  |  |  |  |  |  |  |
| Turkmenistan |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Uganda |  | 1963 | 1963 |  |  |  |  |  |  |  |  |  |  | 1990 |  |  |  |  |  |  |  |
| Ukraine |  | 1961 | 2004 | 1968 | 1970 | 1968 |  | 2004 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| the United Arab Emirates |  |  | 1982 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| the United Kingdom |  | $1936{ }^{1}$ | 1949 | 1962 |  | 1967 |  |  |  |  | 1979 |  |  |  |  |  |  |  |  |  |  |
| the United States |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2001 |  |  |  |
| Uruguay | 1933 | $1954{ }^{2}$ | 1973 | 1992 | 1977 | 1995 |  | 1973 | 1977 | 1980 | 1988 | 1988 | 1988 | 1995 | 2005 |  |  |  | 2005 |  |  |
| Uzbekistan |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Vanuatu |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Venezuela | 1933 | 1944 | 1967 |  |  | 1971 | 1984 |  |  | 1983 |  | 1984 |  |  |  |  |  |  |  |  |  |
| Viet Nam |  | 1994 | 1994 |  |  | 1994 |  |  |  |  |  | 1994 |  |  |  |  |  |  |  |  |  |
| Yemen |  |  | 1976 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Zambia |  | $1964{ }^{4}$ |  |  |  |  |  |  | 1973 |  | 1980 |  |  |  |  |  |  | 1999 |  |  |  |
| Zimbabwe |  | 1980 | 1993 |  |  |  |  | 1993 |  |  |  | 2003 | 2003 | 2003 |  | 1998 | 2003 | 2003 |  |  |  |
| Number of Countries ratified Convention or Protocol | 62 | 97 | 129 | 47 | 50 | 49 | 25 | 41 | 36 | 35 | 41 | 40 | 22 | 27 | 17 | 11 | 9 | 20 | 3 | 10 | 3 |
| http://www.ilo.org/ilolex | english/n | ewratfra | meE.htm |  |  |  |  |  |  |  |  |  | denoun | ced in 1 | 88 2) i | 1978 | in 1 | 4) 199 | 5) in | 987 6) | 1967 |

This report can be accessed through web at: unw.ilo. org/public/english/protection/safework/wdcongrs17/intrep. pdf www.ilo.org/safework


[^0]:    1
    ILO: Global strategy for occupational safety and health - Conclusions adopted by the International Labour Conference, 91st Session, 2003.
    http://www.ilo.org/public/english/protection/safework/globstrat_e.pdf

[^1]:    2
    See http://www.ilo.org/public/english/protection/safework/wdcongrs/ilo_rep.pdf

[^2]:    3
    Nurminen M, Karjalainen A.: Epidemiologic estimate of the proportion of fatalities related to occupational factors in Finland. Scand J., Work Environment Health 2001; 27(3):161-213
    4
    www.ilo.org/public/english/protection/safework/wdcongrs/ilo_rep.pdf - ibid

[^3]:    5
    Hämäläinen P., Takala J., Saarela K: Global Estimate of Occupational Accidents, Safety Science, accepted for publication in 2005.

[^4]:    6 See, for example, Chapter 3 of Work and Health in the EU, a statistical portrait - Eurostat, European Commission, 2004 (contact eurostat@mail.europa.eu.int)

    7 The List of Occupational Diseases Recommendation, 2002 (No. 194) -
    see http://www.ilo.org/ilolex/english/recdisp1.htm

[^5]:    9
    See Health and Safety Statistics highlights 2003-2004, Health and Safety Executive, UK http://www.hse.gov.uk/statistics/overall/hssh0304.pdf

[^6]:    11 Schulte P.A.: Characterizing the Burden of Occupational Injury and Disease. JOEM, Vol. 47, No. 6, June 2005, pp. 607-622

[^7]:    12
    Arndt V., Rothenbacher D., Daniel U a.o.: Construction work and risk of disability: a ten year follow up of 14 474 male workers. Occ.Env. Medicine, pp. 559-566

[^8]:    14
    See http://www.ilo.org/public/english/standards/relm/ilc/ilc91/pdf/pr-22.pdf
    15 See http://www.ilo.org/public/english/protection/safework/integrap/survindex.htm http://www.ilo.org/public/english/protection/safework/globstrat_e.pdf

[^9]:    See www.ilo.org/public/english/protection/safework/cis/products/encyclo/index.htm www.ilo.org/encyclopaedia/

    See www.ilo.org/public/english/protection/safework/cis/index.htm
    See http://www.ttl.fi/Internet/English/Information/Electronic+journals/

