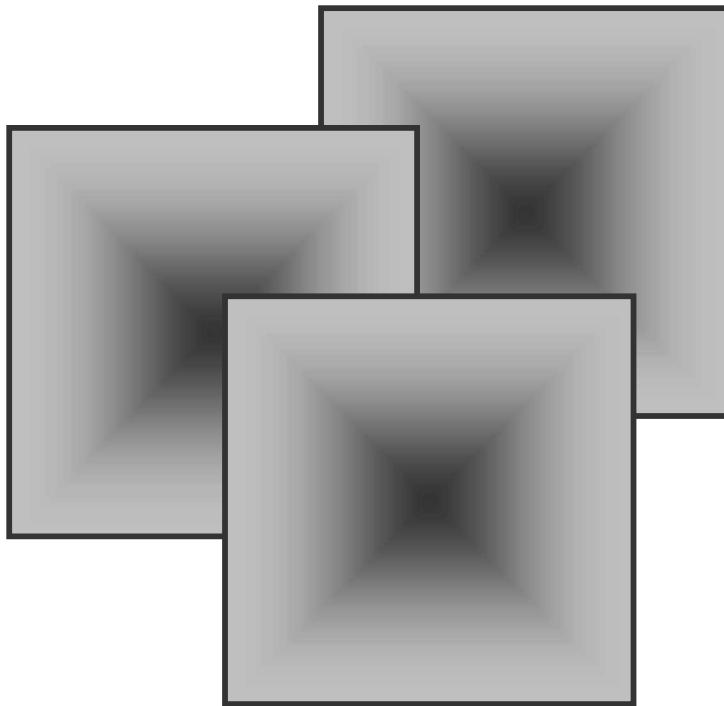




International
Labour
Organization

World Day for Safety and Health at Work 2005: A Background Paper



ILO InFocus Programme on SafeWork

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Executive summary

Each year on 28 April, the ILO promotes occupational safety and health across the globe as part of the World Day for Safety and Health at Work. Since 2003, when the ILO began observing the day, this event has become one of global importance and is now marked in over 100 ILO member States. For this year, the ILO SafeWork programme has chosen the theme “preventative safety and health culture”, with a focus on the construction industry and younger and older workers.¹

The ILO estimates that some 2.2 million women and men around the world succumb to work-related accidents or diseases every year. Worldwide, there are around 270 million occupational accidents and 160 million victims of work-related illnesses annually. A special ILO report, called “Prevention: A global strategy” has been prepared especially for the World Day on Safety and Health at Work.

According to the ILO, deaths due to work-related accidents and illnesses represent 3.9 per cent of all deaths and 15 per cent of the world’s population suffers a minor or major occupational accident or work-related disease in any one year. A large number of the unemployed – up to 30 per cent – report that they suffer from an injury or disease dating from the time at which they were employed. The unemployed often cite impairment of their health as a hindrance to finding new employment.

This Briefing Note highlights some of the major findings in the ILO’s latest statistical data on occupational accidents and diseases, and work-related deaths. These include the following:

- The number of fatal occupational accidents, especially in Asia and Latin America, is increasing. For example, between 1998 and 2001, fatal accidents at work rose from 73,500 a year to 90,500 in China, while there were nearly half a million work-related deaths in 2001. In Latin America, fatal accidents moved from 29,500 per annum in 1998 to 39,500 in 2001. According to a new ILO analysis, rapid economic expansion lies behind these figures.
- Diseases related to work cause the most deaths among workers. Hazardous substances alone are estimated to cause 438,489 deaths a year.
- The construction industry has a disproportionately high rate of recorded accidents.
- Younger and older workers are particularly vulnerable. The ageing population in developed countries means that an increasing number of older persons are working and need special consideration.

The role of the ILO in occupational safety and health

The ILO drafts and adopts international labour standards in the form of Conventions and Recommendations. More than 70 Conventions and Recommendations relate to questions of safety and health and more than 130 member States have ratified one particular Convention, the Labour Inspection Convention, 1947 (No.81), which is

¹ <http://www.ilo.org/public/english/protection/safework/index.htm>.

instrumental in preventing accidents and illnesses and is one of the most ratified Conventions. In addition, the ILO has issued more than 30 Codes of Practice on Occupational Safety and Health. The Occupational Safety and Health Convention, 1981 (No. 155) provides a suitable framework supporting a safety and health culture.

The ILO Guidelines on Occupational Safety and Health Management Systems (ILO-OSH 2001)² provide a powerful tool for developing a sustainable safety and health culture at the enterprise level as well as mechanisms for the continual improvement of the working environment.

The ILO InFocus Programme on SafeWork is the hub of work in this area and has four major goals:

- Developing preventive policies and programmes to protect workers in hazardous occupations and sectors
- Providing effective protection to vulnerable groups of workers falling outside the scope of traditional protective measures
- Equipping governments and employers' and workers' organizations to address problems of workers' well-being, occupational health care and the quality of working life
- Documenting and obtaining recognition of the social and economic impact of improving workers' protection by policy- and decision-makers

² <http://www.ilo.org/public/english/protection/safework/managmnt/guide.htm>.

1. Growth of occupational accidents: specific cases

The trends emerging from the reported data indicate that while accidents and some work-related diseases are declining in industrialized countries, they are increasing in rapidly industrializing countries. Accidents and work-related communicable diseases are also high in developing countries in the tropics, and accidents are likely to continue to increase if industrialization gains momentum.

The main preventable factors for accidents are:

- Lack of a preventative safety and health culture
- Poor management systems
- Poor supervision and enforcement by the government

Table 1: Global estimates of occupational accidents

New analysis (2005) based on most recent available data (2001)

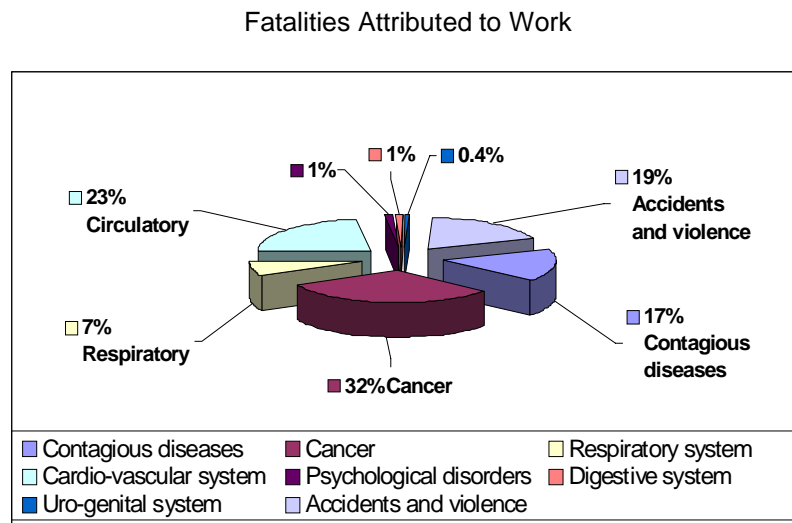
	Economically active population** (2001)	Economically active population** (1998)	Fatal accidents* (2001)	Fatal accidents *(1998)	Accidents causing 3 or more days absence ** (2001)	Accidents causing 3 or more days absence ** (1998)	Work-related deaths (2001)
Industrialized countries	419.5 m	409 m	16,000	16,000	12 m	12.5 m	297,000
Central and Eastern Europe and Central Asia	183 m	184.5 m	17,500	21,500	13.5 m	16.5 m	166,000
India	444 m	458.5 m	40,000	48,000	30.5 m	37 m	302,000
China	740.5 m	708 m	90,500	73,500	69 m	56 m	477,000
Other Asia and Islands	415.5 m	404.5 m	77,000	83,000	58.5 m	63.5 m	256,000
Sub-Saharan Africa	279.5 m	260.5 m	53,500	54,000	40.5 m	41 m	265,000
Latin America and the Caribbean	219 m	193.5 m	39,500	29,500	30 m	22.5 m	148,000
Arab-speaking world	135 m	113 m	18,000	19,000	13.5 m	14.5 m	139,000
Total	2,837 m	2,732 m	351,500	345,500	268 m	264 m	2.2 m***

* Rounded to the nearest 500

** Rounded to the nearest 500,000

*** ILO mid-point estimate averaged from 2 methods

The 2.2 million work-related deaths (a 10 per cent increase as compared to former estimates) are broken down as follows:



As regards the growing number of fatal accidents, two cases stand out: China and Latin America, where significant increases were recorded between 1998 and 2001.

China

While it is estimated that 2.2 per cent of deaths in industrialized countries are caused by workplace related accidents or illnesses, the figure in China is 2.8 per cent.³ According to the report, fatal accidents in China increased from 73,500 to 90,500 between 1998 and 2001. In addition, there were 13 million more accidents resulting in an absence from work of more than three days in 2001 than in 1998. In 2001, China accounted for almost one quarter of the world’s work-related deaths.

The workforce in China is rapidly expanding, having already increased from 708 million to 740.5 million between 1998 and 2001. With more people in work, the number of accidents and diseases increases proportionately. What’s more, extremely rapid industrialization may also be responsible for increased work-related ill health and death. The types of industry that are growing in China, such as iron and steel production, mining, construction and energy production, are among the most hazardous sectors. In addition, the huge need for new workers in these areas and the mobilization of unskilled workers from rural areas into these hazardous industries tends to result in increased accident rates.

As part of its work on prevention of occupational accidents and diseases, the ILO has just published the Chinese National Profile on Occupational Safety and Health,⁴

³ World Health Report, 2004, <http://www.who.int/whr/2004>.

⁴ *National Profile Report on Occupational Safety and Health in China*, China Academy of Safety Sciences and Technology, Beijing, January 2005, ISBN 7-5045-4786-7.

marking the first time such key data on the subject has been published. New developments and statistics in the profile include:

- The new law on work safety.
- The new law on occupational diseases.
- China's main enforcement authority, the State Administration of Work Safety (SAWS) has been upgraded to cabinet ministry level.
- An Occupational Safety and Health Management System based on ILO Guidelines has been introduced in China.
- In 2002, there were 139,393 fatal accidents including traffic accidents, according to published statistics. The ILO estimates that the figure covering the workforce, excluding non-occupational traffic accidents, to be about 90,000 deaths.
- 40 million workers are covered by the work injury insurance scheme out of a workforce of over 740 million.
- Mining, construction, agriculture, forestry and fishing, and agriculture are the most dangerous sectors in China.

Latin America

There are several reasons for the rising trend in accident figures in Latin America. First, the number of those employed has gone up radically from 193.5 million in 1998 to 219 million in 2001. This increase, which also indicates a shift of work from the informal sector to the formal sector, has led to a higher number of fatal accidents in a number of countries, including Brazil and Mexico. At the same time, an improved recording system for occupational safety and health data in several countries has produced new figures considered to be more accurate than before. Third, in more industrialized areas, an apparent concentration of new industries with a resulting boom in the construction sector has also led to increased reporting of fatal accident numbers. This may also reflect the fact that the effects of globalization are visible in the region, both positively in terms of higher employment and negatively in terms of the growing number of accidents.

A measurable impact of actions taken to improve occupational safety and health has been observed. Brazil and Uruguay have ratified a significant number of ILO Conventions on Occupational Safety and Health. Several countries in the region have established national occupational safety and health programmes and improved systems, including legal and enforcement procedures and promotional programmes such as the campaigns related to the World Day on Safety and Health at Work.

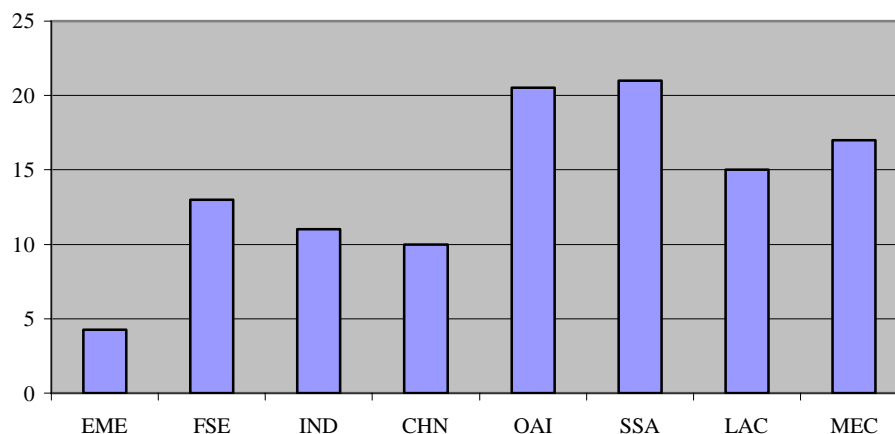
Progress has also been made in the agricultural sector in enrolling major companies in using fair practices, such as those in the banana plantations of Central America. These steps have also involved improved collaboration with global trade unions.

The ILO Guidelines on Occupational Safety and Health Management Systems have been put into practice in many Latin American countries, and in Argentina there will be a specific signature ceremony to adopt the ILO Guidelines (ILO-OSH 2001) on the occasion of the World Day for Safety and Health at Work 2005.

Construction safety activities have been implemented in several countries in collaboration with the ILO. An ILO construction safety technical cooperation project, funded by Spain and covering MERCOSUR countries and Chile, is underway and aims to promote tripartite discussion and the formulation of national policies and programmes in this area.

Fatal work-related accident rates worldwide

Estimated rate of work-related fatal accidents per 100,000 workers



Key: EME - Established Market Economies; FSE – Formerly Socialist Economies; IND – India; CHN – China; OAI – Other Asia and Islands; SSA – Sub-Saharan Africa; LAC Latin America and the Caribbean; Middle East Crescent.

Source: ILO, 2005

The graph shows, among other things, that:

1. The estimated rate of work-related fatal accidents per 100,000 workers is very high in the other Asia and islands region,⁵ sub-Saharan Africa and the Arab-speaking world, where the total number of fatal accidents actually went down between 1998 and 2001.
2. All regions featured a rate that is at least double that of the established market economies (EME).
3. China displayed a relatively low rate, but its workforce is over 30 per cent greater than that of the nearest country or region - India, which showed a decline in fatal accidents but a slightly higher rate of accidents than China.
4. The former socialist countries (FSC) showed a decline in total fatal accidents but a high rate of fatal accidents per 100,000 workers.

⁵ This region does not feature either India or China.

2. Work-related diseases

Of the 2.2 million work-related deaths a year, 1.7 million – or nearly four-fifths – are due to work-related disease. Each year, there are 160 million incidents of work-related disease. Hazardous substances kill about 438,000 workers annually. Asbestos alone claims 100,000 lives. Most of the other deaths are due to various forms of cancer. Another major killer is silicosis, which affects 37 per cent of miners in Latin America.

Regarding hazardous substances, the impact reveals that men are at particular risk. This can be explained by the distribution of hazardous jobs. More men work in jobs that expose them to accidents or hazards caused by substances that are carcinogenic or may cause circulatory and respiratory disease. Also, it appears that even in the same jobs, women tend to adopt more preventive and protective ways of carrying out work.

On the other hand, with large numbers of women working in agriculture in developing countries, they are particularly vulnerable to communicable diseases, such as work-related malaria, hepatitis, schistosomiasis (infection by a water-borne parasite) and other bacterial, viral and vector-borne diseases.

While men are more likely to be involved in fatal accidents and other work-related deaths, the everyday burden of muscular-skeletal disorders, stress, and violence hits women hard, but the outcome may often be long-term disabilities rather than death.

The main preventable factors behind these numbers are:

- Exposure to hazardous substances (work-related cancer).
- Shift work and night work, carbon monoxide, combustion products, chemicals, passive smoking (work-related circulatory diseases).
- Exposure to biological agents in agriculture and elsewhere, poor sanitation, dirty drinking water (work-related communicable diseases).

In the field of agriculture, where some 50 per cent of the world's workforce is employed, the ILO estimates that pesticides annually cause some 70,000 acute and long-term poisoning cases leading to death and a much larger number of acute and long-term non-fatal illnesses.

International labour standards on hazardous work developed by the ILO include the Asbestos Convention, 1986 (No. 162) and its associated Recommendation (No. 172). There is also an ILO Code of Practice on Safety in the use of asbestos.

3. The construction industry

The construction industry is a special focus of the World Day for Safety and Health at Work in 2005. The industry is still largely labour-intensive and has a tradition of employing migrant labour from lower-wage economies, with often precarious terms of employment. Many different parties are also involved – employers, contractors, workers, architects, designers, clients, equipment suppliers and others, which can

induce stress in the worker and may increase the prevalence of psychosocial problems.

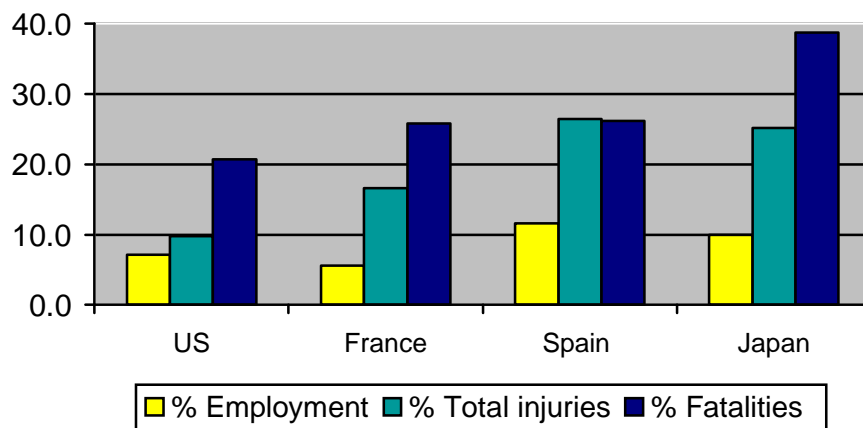
The global number of accidents and diseases in the construction industry is difficult to quantify, as statistical information is not available for many countries. But ILO global estimates for 2003 of work-related fatalities showed that the construction industry recorded some 60,000 fatalities out of a world total of 355,000, nearly 17 per cent.

According to ILO estimates:

Each year at least 60,000 fatal accidents occur on construction sites around the world – or one fatal accident every ten minutes.

1. One in six fatal accidents at work occurs on a construction site.
2. In industrialized countries, as many as 25-40 per cent of work-related deaths occur on construction sites, even though the sector employs only 6-10 per cent of the workforce.
3. In some countries, it is estimated that 30 per cent of construction workers suffer from back pains or other musculoskeletal disorders.

Employment and occupational accidents in construction as a percentage of all economic activities: examples from 4 countries



The chart shows that in the four sample industrialized countries, total injuries and fatalities are above the 20 per cent level while the employment share of the sector in total employment is slightly above 10 per cent or less. However, it cannot be assumed that the numbers are higher in the developing world, as the more developed the country, the bigger the construction industry and the greater the share of construction fatalities. The total number of construction workers in both Spain and Japan, both of which have high fatality rates, is above the US and France.

The ILO adopted its first Convention for the construction industry in 1937. The Safety and Health in Construction Convention (No. 167) and its associated Recommendation (No. 175) were adopted in 1988. As a complement to these standards, the ILO *Code of Practice on Safety and Health in Construction*⁶ was approved in 1992. The 2001 Guidelines on Occupational Health and Safety Management Systems, which apply to all economic sectors, are particularly useful in the construction industry as they highlight issues relating to subcontracting. As a major employment generator, construction is also a sector associated with a proportionately high number of job-related accidents and diseases.

4. Younger and older workers

The ILO also examined occupational safety and health among younger and older workers.

According to ILO estimates for younger and older workers:

- Young workers aged 15-24 are much more likely to suffer non-fatal but serious accidents at work compared to their older colleagues. In the European Union, for example, the incidence rate for non-fatal accidents is at least 50 per cent higher among workers aged 18-24 than in any other age category.
- Young workers also appear to be more vulnerable to certain types of risk than their older colleagues. For example, in Australia, fatal injuries involving electricity are twice as common amongst younger workers than amongst their older colleagues, according to the National Occupational Health & Safety Commission.

On the other hand, workers aged 55 years and over seem to be more likely to suffer fatal injuries at work compared to their younger colleagues. In the European Union, for example, the incidence rate of fatal accidents at work was 8.0 for the 55-64 age group in 2000, but only 3.3 for the 18-24 age group.

The United Nations defines young people as those aged between 15 and 24 years old. According to the ILO publication “Global Employment Trends for Youth”, 85 per cent of the world's young people live in developing economies and the proportion is

⁶ <http://www.ilo.org/public/english/protection/safework/cops/english/>.

likely to increase further given current demographic trends. In 2015, an estimated 660 million young people, 7.5 per cent more than in 2003, will either be working or looking for work. The UN Population Fund (UNFPA) also states that about 57 million young men and 96 million young women aged 15-24 in developing countries cannot read or write, potentially hampering their ability to find work and precluding them from better paid, less hazardous work. Young people can be and often are exposed to serious deficiencies in decent work, such as low wages, poor and precarious working conditions, lack of access to social protection, and lack of freedom of association and access to collective bargaining.

At the other end of the age scale, UNFPA predicts that whereas one out of every ten persons in the world today is aged 60 or over, by 2020 this figure will have risen to one out of every eight persons. Meanwhile in Europe, by 2010 the 45-64 age group is expected to represent almost half of the working population. As a result many organizations are now giving attention to the occupational risks that older workers face and how they can be addressed.

Younger and older workers are covered by the Minimum Age Convention, 1973 (No. 138), the Worst Forms of Child Labour Convention, 1999 (No.182) and their associated Recommendations, and the Older Workers Recommendation, 1980 (No.162).

5. Methodology used in data estimates

Although the methods used to calculate the estimates for accidents and for diseases are basically similar, there are some important differences.

Fatal and non-fatal accidents

Existing data reported to the ILO by member States has been used as baseline data. This has been complemented by national and regional sources, such as data from the European Union. Countries that report workplace accidents accurately were taken as benchmarks while also accounting for populations not covered by the existing reporting systems. These often include agricultural workers and the self-employed. In countries where no reliable data was found, proxy sources were used. This means that in each region, those ILO member States which best report workplace accidents were used as a reference value.

Average fatal accident rates were calculated for the reporting populations in three different economic sectors:

1. Agriculture, fishing and forestry
2. Manufacturing industries, including mining and construction
3. Service industries

This was done to compensate for the structural differences between these sectors. In countries where the proportion of jobs in agriculture, mining and construction is significantly higher than in service industries, for example, the overall national

accident rate and the number of fatalities is much higher even though conditions in individual enterprises and jobs would be fully comparable. Using this method, separate rates for each of the three sectors were produced. Counting the total number of actively employed, (including both the formal and the informal sectors) resulted in an extrapolated number of fatalities in each country and region.

Again using the best reporting countries as benchmarks, a ratio between fatal accidents and non-fatal accidents was obtained. This ratio was then used to calculate the estimated number of non-fatal accidents within a certain confidence interval. These ratios are not exact and vary in different sectors while the real reported number in most member States did not allow for a more accurate indicator.

Deaths caused by work-related diseases

While accident figures are generally reasonably well reported, the same cannot be said for occupational or work-related diseases. *Occupational* diseases are those that are included in international or national lists, and are usually compensable by national workers' compensation schemes and are recordable under reporting systems (for example, silicosis and diseases caused by many chemical agents). For occupational diseases, work is considered the main cause of the disease. *Work-related* diseases are those where work is one of several components contributing to the disease. Such diseases are compensated only in very few cases and in very few countries. Examples are several types of cancer, some circulatory diseases and work-related malaria where work may have a contributing factor of 1-50 per cent of the disease. However, there must be a recognized and significant link between work and the illness.

Based on existing knowledge of exposure quantities, such as exposure to asbestos fibres in breathing air, the time of exposure, the known cause-outcome relationship and the additional deaths among those who are occupationally exposed compared to the rest of the population, an attributable fraction can be identified. This is the fraction of disease, which would not have occurred had the factor been non-existent in the exposed population. This is usually expressed as a percentage of the negative outcome (i.e. the fatalities) that has been attributed to work.

Deaths caused by hazardous substances are an illustration of the method. The percentage of deaths that can be attributed to exposure to hazardous substances has been estimated using existing knowledge about exposure qualities. This percentage of the total number of deaths is then used to produce an estimate of the number of deaths attributed to hazardous substances. The attributable fraction method can also be applied to different age groups and to the sexes to produce higher and lower limits of the estimates.

Such exposure details have been well established in many industrialized countries while in most developing countries such data does not exist. Although the ILO estimates would seem to be based on exposures that may not adequately characterize working conditions in developing countries, the method is nevertheless valid for a number of reasons.

- The human response is likely to be similar in all countries.
- Technical and technological processes are global.

- Best production methods are quickly adopted in developing countries.
- Although work processes are technically often similar, much more labour is used in countries where manpower is cheap. As a result the number of people exposed is often higher in developing countries.
- Exposure levels and exposure times are usually higher in the developing world.

While there are some exceptions, such as better natural ventilation in tropical countries, on the other hand many exposures practically do not exist in developed countries (such as work-related malaria and many viral and bacterial diseases). As a result it is likely that the attributable fractions are not lower but often higher in developing countries, meaning that ILO figures are probably *underestimates* of the true situation. The fact that the average life expectancy is often much lower in developing countries due to work-related or non-work related reasons, such as poor drinking water and lack of sanitation, will certainly also affect the outcomes. People often do not live long enough to contract diseases like cancer, which may have a latency period of up to 30-50 years. However, this is well reflected in the number of all fatalities caused for example by cancer, which is low compared to that of other causes. Applying the attributable fraction accordingly will produce numbers that are correspondingly low.

6. Conclusions and recommendations

The 91st Session of the International Labour Conference in 2003 adopted a global strategy on occupational health and safety, a subject, as noted by ILO Director-General Juan Somavia, which was “at the heart of the ILO’s work since 1919”. The strategy aims to move OSH higher up international and national political agendas. As Juan Somavia said: “Decent work is safe work”.

The strategy includes actions on promotion, awareness raising and advocacy, the priority development of a new instrument establishing a promotional framework in the area of OSH, technical assistance and cooperation, knowledge development, and international collaboration. At the 28 April World Day for Safety and Health at Work, the ILO will re-affirm the importance of social dialogue in tackling the challenges for a successful preventative safety and health culture.

The Governing Body decided at its 288th (November 2003) Session to place this item on the agenda of the 93rd (2005) Session of the International Labour Conference in June 2005. The ILO has prepared two reports to serve as a basis for the first discussion. The preliminary report, *Promotional framework for occupational safety and health*, Report IV(1), International Labour Conference, 93rd Session, 2005, was accompanied by a questionnaire to which governments were asked to give reasoned replies. These replies have been summarized in the second report (IV(2)) which also indicates the main points that the Conference may wish to consider.