



## **Introductory Report: Decent Work – Safe Work**

by

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### **Introduction**

Kofi Annan, Secretary-General of the United Nations:

*"... Safety and health of workers is a part and parcel of human security. As the lead United Nations agency for the protection of workers' rights, the ILO has been at the forefront of advocacy and activism in promoting safety and health at work. Safe Work is not only sound economic policy, it is a basic human right..."*

Juan Somavia, Director-General, International Labour Office:

*"... Current estimates point to some 2 million men and women who lose their lives through occupational accidents and work-related diseases each year ...*

*Work is central to people's lives, to the stability of families and societies. It is key to poverty reduction and to the achievement of social inclusion and social cohesion. Such work must be of acceptable quality. Decent Work must be Safe Work and we are a long way from achieving that goal."*

(Speeches delivered on the occasion of Workers' Memorial Day  
New York and Geneva respectively, 28 April 2002)

### **Magnitude of the problem**

Indicators for death, disability and disease at work can measure a number of factors. The outcome indicators include the number of fatal and disabling accidents, occupational (100% work-related and often compensated) and work-related diseases (less than 100% caused by work), absenteeism, disability pensions and loss of working capacity. These may be also tied together, such as when estimating the disability adjusted life years (DALY's)

## Deaths

According to the latest ILO projections for the year 2000, based on 1998 statistics – there were altogether:

**2 million work-related deaths annually**

(See Annex.)

No country in the world records and compensates all work-related diseases while occupational accidents are better – although not satisfactorily – recorded. The figures mentioned above are estimates made using reports from countries in all regions that record reasonably well their accidents and diseases.

Global work-related deaths have been estimated using attributable fractions of work-related mortality due to specific disease categories and injuries. These attributable fractions are based on data about existing exposures to known factors of work-related diseases and their proven impact on morbidity to these diseases, in particular, in industrialized countries.

Such studies have not been carried out – or only to a limited extent – 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, such as skin melanoma which is much more prevalent in workers who are more sensitive to extensive UV radiation exposure.

The human body reactions are likely to be the same around the world and, furthermore, most work processes are equally universal. Agriculture, extractive industries, manufacturing industries, road and building construction, traffic as well as public and private services use the same methods around the world.

While production processes are largely the same, some notable differences can also be identified, in particular, in estimating exposure levels:

1. Many production processes are considerably more labour intensive in developing countries than in industrialized countries; this tends to increase the number of exposed workers.
2. Temperatures and other climatic conditions are usually more demanding in developing countries, in particular, in tropical regions. However, open production space, missing or limited walls and better natural ventilation in production facilities are more common in warmer, low-income countries.
3. Knowledge and awareness of hazards and consequently prevention levels are significantly lower in low-income countries.
4. Less sophisticated machinery and equipment using lower energy levels are used in developing countries.
5. Some minerals and chemicals have been used less in developing countries in the past (such as asbestos and industrial chemicals). While the pattern is changing, some others are used more (pesticides) and without proper control measures.
6. Industrialized countries are more likely to have 24/24 hours production and services; this increases shift and night work in high income areas.

7. Communicable diseases at work (malaria, hepatitis, viral and bacterial infections ...) are considerably more prevalent in low-income countries than in middle- and high-income economies.
8. Due to shorter average life expectancy, diseases that have a long latency period and appear later in working life or after retirement, such as work-related cancer and circulatory diseases, do not always have sufficient time to develop.

In estimating occupational fatality data all these factors have been taken into account in adjusting downwards the attributable fractions for non-communicable diseases and increasing those of communicable diseases in low-income areas. Weighting factors – i.e. the ratio between occupational deaths in high- and low-income countries – from the work-related mortality figures of the WHO Global Burden of Disease publication have been used. In middle-income areas these factors are expected to balance each other and the same attributable fractions have been used as for high-income countries.

It is a known fact that certain industries are more dangerous than others. One of the key reasons for the favourable declining fatal accident trend in high-income economies is the gradual structural change: in these countries fewer people work in hazardous sectors and jobs, such as those in agriculture, logging, mining, and more are employed in relatively safe service sectors.

It appears that industrialization that includes road, infrastructure, telecommunications, factory construction, increased traffic, and untrained workers in totally new jobs, increases rapidly fatal and other accident rates. These will go up until a plateau is reached. Gradually, prevention policies and programmes will then gain momentum and the structural shift to service industries will together begin to have a positive effect.

However, this rapid increase of accidents due to industrialization may be also partially explained by better recording and compensation systems. Rural and informal working populations are practically outside any protection measures. This applies to both legal and compensation coverage as well as to inspection and occupational health service coverage. Industrial and service sectors are better covered and thus recording systems produce more realistic figures.

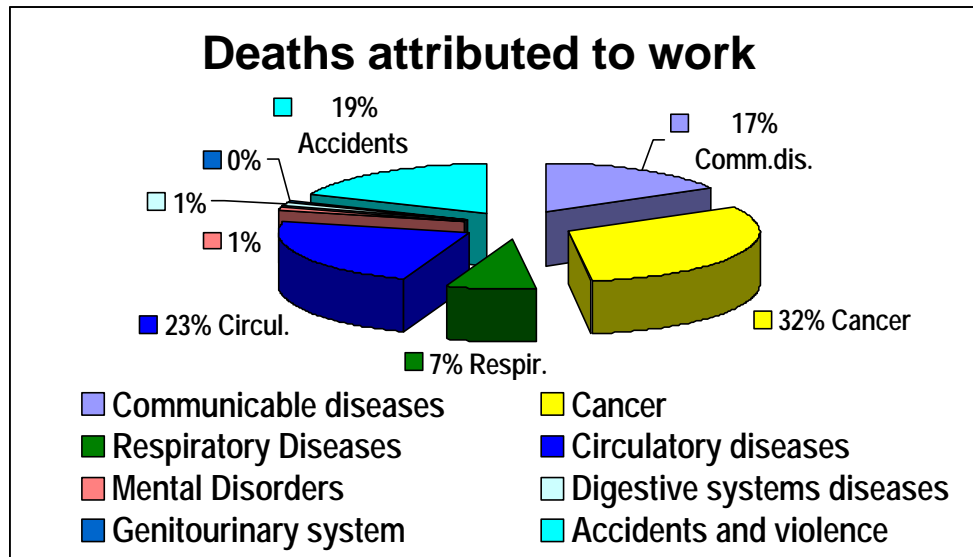
## **Major factors of work-related deaths**

### **I. Work-related cancer**

*Main contributing and preventable factors:*

- asbestos
- carcinogenic chemicals and processes
- ionizing radiation and radioactive materials, radon, UV-radiation
- silica and other carcinogenic dusts
- environmental tobacco smoke (passive smoking) at work
- diesel engine exhaust

Table 1. Global Estimated Work-Related Mortality



## II. Work-related circulatory diseases

*Main contributing and preventable factors*

### Cardiovascular diseases

- shift work and night work, long hours of work (including karoshi or death by overwork)
- job strain caused by high demands and low decision making latitude, resulting in hypertension and high level of "stress hormones", for example: bus drivers
- noise
- high risk to injury
- chemicals, such as carbon disulphide, nitroglycerin, lead, cobalt, carbon monoxide (foundries, traffic controllers), combustion products, arsenic, antimony
- environmental tobacco smoke at work

### Cerebrovascular diseases

- shift work
- environmental tobacco smoke at work

## III. Occupational accidents

*Main contributing and preventable factors*

- lack of company/enterprise safety and health policy, structure, worker/employer collaborative mechanism, lack of occupational safety and health management system

- poor safety culture
- lack of knowledge, available solutions, awareness, information centres
- lack of or poor government policies, legal and enforcement and advisory system, tripartite collaboration
- lack of incentive based compensation system (experience rating)
- lack of or poor occupational health services
- lack of research and proper statistics for priority setting
- lack of effective training and education system at all levels

#### **IV. Work-related communicable diseases**

##### *Main contributing and preventable factors*

- infectious and parasitic diseases (malaria, viral and bacterial diseases, schistosomiasis, tse-tse flies, zoonosis ...)
- poor quality drinking water
- poor hygiene, lack of knowledge  
(dangerous animals, snakes and insects are usually recorded under accidents)

#### **Main reasons for the increases since the earlier ILO estimates**

Main reasons for the increases include –

1. Work-related communicable diseases were not counted before.
2. Work-related cancer and circulatory diseases are higher than before. This is caused by the fact that some age groups not covered before are now taken into account, for example, some disease categories and ages between 60-70 years, although the workers may have already retired. This was justified by the long latency periods of such diseases. It has been found that for example shift workers die more often than others for circulatory diseases although already retired. Also the exposure/disease link is better established than before so the attributable fractions related to occupation are slightly higher.
3. We used figures for the year 2000 instead of the previous 1990 figures. The world population and number of workers have increased and so has the number of deaths. In many parts of the world non-communicable diseases are increasing rapidly while deaths from communicable diseases are lower (except for Africa). People are more likely to die from work-related reasons rather than childhood or infectious diseases.
4. Figures for fatal accidents were fairly stable and only slightly going up, increasing in developing and decreasing in industrialised countries.
5. Data collected in 1997 was based on 1990 information.

#### **Work-related non-fatal diseases**

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 come 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 healthier in other parts of the world – that some 184 to 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. Taking into account the under-employment in a number of countries the earlier estimate of **160 million** is reasonable.

## 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. An estimated 12,000 working children die annually. 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 and many only when those workers have already retired.
- (b) While a portion of work-related diseases has a number of contributing factors that are difficult to eliminate, such as genetic and inherited sensitivities, occupational accidents are all caused by preventable factors occurring 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.

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).

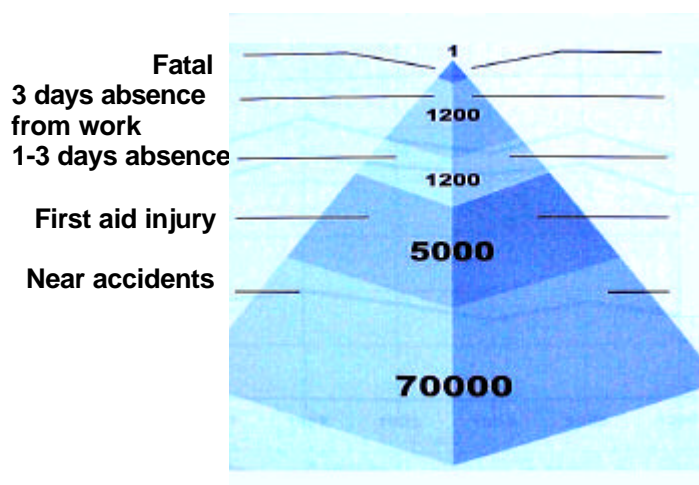


Table 2. The relation of fatal accidents, other accidents and incidents

Table 3. Fatal and other occupational accidents (legend, see Annex)

	Economically active population	Total employment	Fatalities	Accidents
<b>EME</b>	409'141'496	380'833'643	<b>16'170</b>	12'340'216
<b>FSE</b>	184'717'127	162'120'341	<b>21'425</b>	16'350'868
<b>IND</b>	458'720'000	419'560'000	<b>48'176</b>	36'765'877
<b>CHN</b>	708'218'102	699'771'000	<b>73'615</b>	56'179'742
<b>OAI</b>	404'487'050	404'487'050	<b>83'048</b>	63'378'830
<b>SSA</b>	260'725'947		<b>54'705</b>	41'748'723
<b>LAC</b>	195'056'802	114'604'962	<b>29'594</b>	22'584'726
<b>MEC</b>	112'906'300	48'635'240	<b>28'019</b>	21'383'071
<b>World</b>	<b>2'733'972'824</b>		<b>354'753</b>	<b>270'732'052</b>

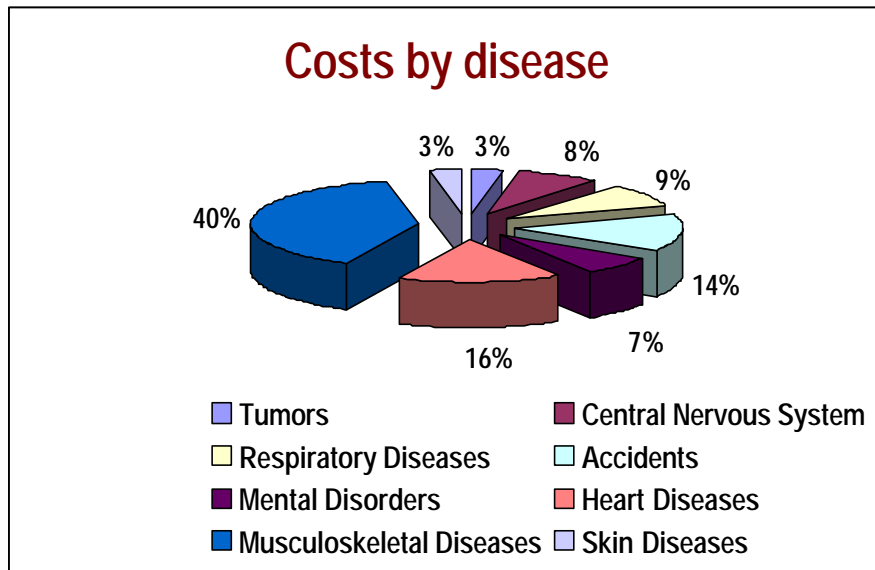
### Economic aspects of work-related problems

No universal and commonly agreed method exists to estimate the economic burden of work-related accidents and diseases. Any calculation of such costs to enterprises and to the whole society depends on selected criteria. Based on a selected compensation system the ILO has estimated that 4% of the Gross Domestic Product is lost due to accidents and work-related diseases. This calculation takes only a fraction of work-related cancer into account – as they are usually neither properly recorded nor compensated. Furthermore, work-related communicable diseases have not been recorded at all.

This kind of compensation based calculation also gives a distorted picture related to fatalities. Usually long-term disabilities become many times more expensive than fatalities although the gravity of consequences may be much smaller.

Rightly, however, the table points out the biggest single reason for economic losses: musculo-skeletal disorders. These cause relatively long absences from work, for example lower back pain and become a major financial burden on the society. Although the majority of the working population is not covered by such compensation schemes, the burden on society and the individual is the same. This burden is left altogether on the victim and his or her family to carry, thereby increasing the poverty already caused by the loss of income.

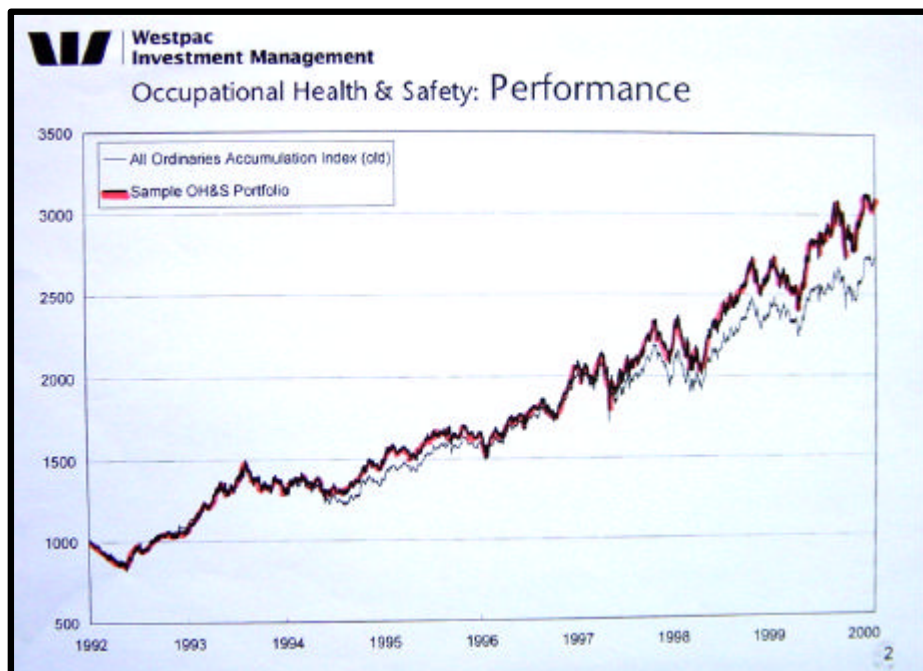
Table 4. Compensated costs of injuries and diseases



## 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 5: Shareholder value is higher for companies that have an OSH management system



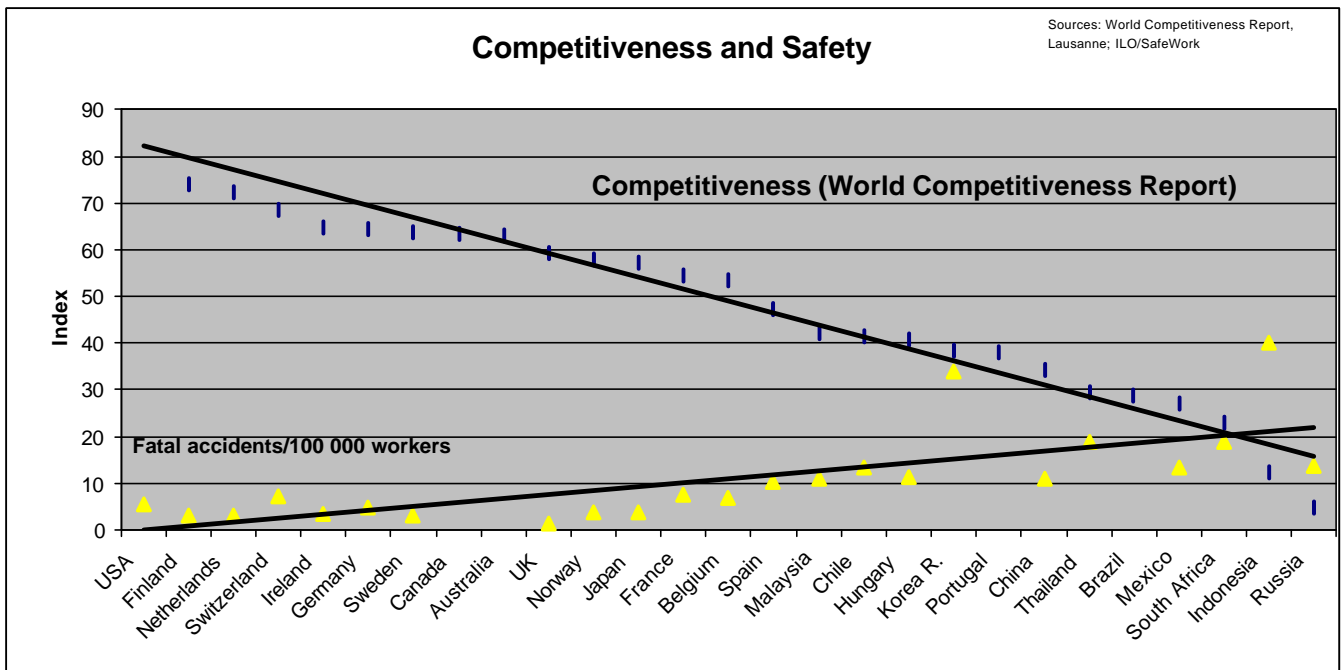


Table 6 . *Competitiveness and Safety*

The value of a proper safety and health management system to the shareholders of enterprises has been estimated in Australia. Selected companies that had a functioning occupational safety and health management system performed considerably better than average companies in the Australian stock exchange over a period of 8 years.

## Gender aspects

A large majority of hazardous jobs are occupied by men and therefore some 80% of the deaths are suffered by men. 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. 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.

## Disability adjusted life years

The WHO driven process to estimate the Global Burden of Disease has produced a useful and comparable measure to evaluate the burden caused by work. The DALY's are calculated by combining the lost years caused by death (years of lost life) to years lived with disability (YLD). Partial disabilities and shorter periods are converted to full 100% disability years. Previous estimates – based on lower number of diseases and accidents –

pointed out major differences between world regions. These differences are mainly caused by different life expectancies and different numbers of years lost – more years lost in high-income countries as workers are expected to live longer. Another reason is the selection of work-related diseases that did not include communicable diseases.

*Table: 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

### **Disability pensions**

In high-income countries workers seldomly work until the official retirement age. About 40% of all working age retirements or about 1% of the total employment annually are caused by disability which 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 represents one seventh of working life. This is 14% of the life time working capacity of the employed labour force. Main causal factors are psycho-social and stress related problems at younger ages and musculo-skeletal disorders for those disabled later in working life. A large number of these are preventable or the negative effects can be postponed considerably.

### **Absenteeism**

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 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.

### **Employability**

A large number of unemployed workers have an impairment of working capacity, not enough for the worker to be entitled to a personal disability pension or compensation but the loss of working ability can be of such magnitude that it can seriously reduce his or her re-employability. A construction worker whose back does not tolerate carrying normal loads or a painter who has asthmatic or allergic reactions caused by solvent-based paints is difficult to employ. 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.

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

### *Psycho-social aspects*

Stress is a major factor causing both accidents and physical diseases. It may be also linked to the misuse of alcohol and drugs and may have links to work place violence. In many parts of the world these may be also linked to 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 exists in every occupation and job.

Active smoking causes 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, 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**

## The ILO's Response

The ILO's response to these major world problems has two components:

- 1 Standard-setting
- 2 The InFocus Programme on Safety and Health at Work and the Environment (**SafeWork**)

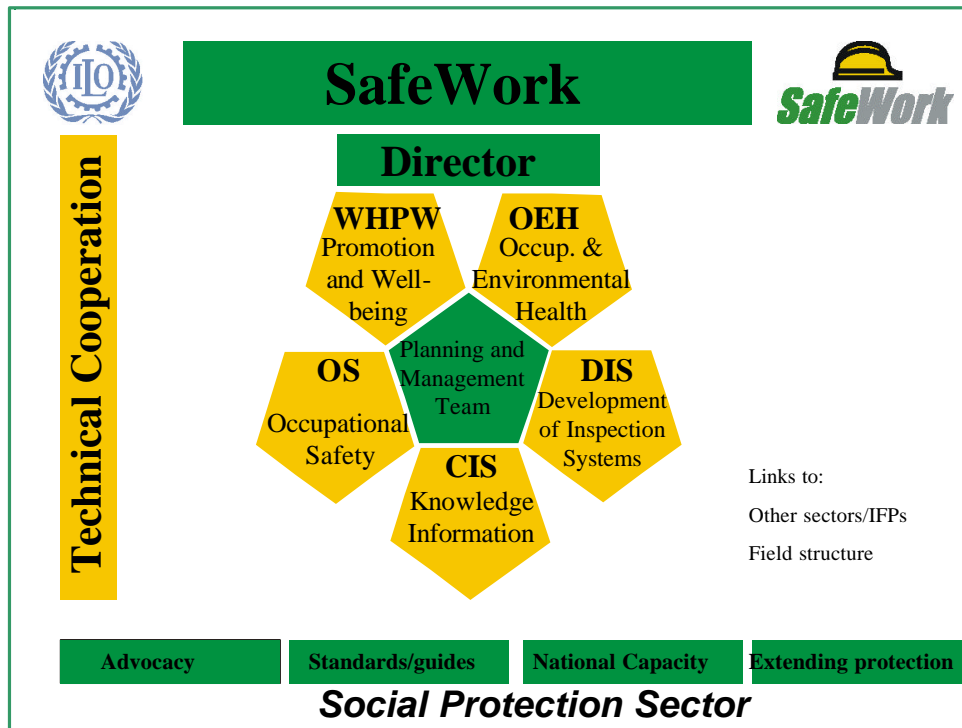
The **SafeWork** Programme has five major elements: Occupational and Environmental Health, Occupational Safety, Workers' Health Promotion and Well-being at Work, Development of Inspection Systems, and the International Occupational Safety and Health Information Centre, CIS.

TOLUENE		K050 - 0024	
IDENTIFICATION	Chemical name: Toluene	Other names: Toluol, Toluol, Toluol	UN number: 1204
HAZARD IDENTIFICATION	Signal word: DANGER	Hazard pictograms: GHS02, GHS05, GHS09	Precautionary statements: P201+P202, P273, P501
EXPOSURE LIMITS	OSHA PEL: 100 ppm (3.5 mg/m³)	NIOSH REL: 100 ppm (3.5 mg/m³)	NIOSH IDLH: 500 ppm (17.5 mg/m³)
CONTROL MEASURES	Engineering: Local exhaust ventilation	Administrative: No smoking, No open flames	PPE: Respiratory protection, Eye protection, Skin protection
ENVIRONMENTAL INFORMATION	Biodegradability: Biodegradable	Biodegradability: Biodegradable	Biodegradability: Biodegradable

NITROBENZENE		K050 - 0005	
IDENTIFICATION	Chemical name: Nitrobenzene	Other names: Nitrobenzol, Nitrobenzol	UN number: 1204
HAZARD IDENTIFICATION	Signal word: DANGER	Hazard pictograms: GHS02, GHS05, GHS09	Precautionary statements: P201+P202, P273, P501
EXPOSURE LIMITS	OSHA PEL: 5 ppm (15 mg/m³)	NIOSH REL: 5 ppm (15 mg/m³)	NIOSH IDLH: 25 ppm (75 mg/m³)
CONTROL MEASURES	Engineering: Local exhaust ventilation	Administrative: No smoking, No open flames	PPE: Respiratory protection, Eye protection, Skin protection
ENVIRONMENTAL INFORMATION	Biodegradability: Biodegradable	Biodegradability: Biodegradable	Biodegradability: Biodegradable



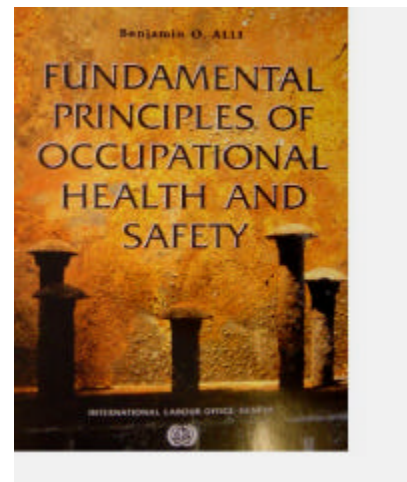
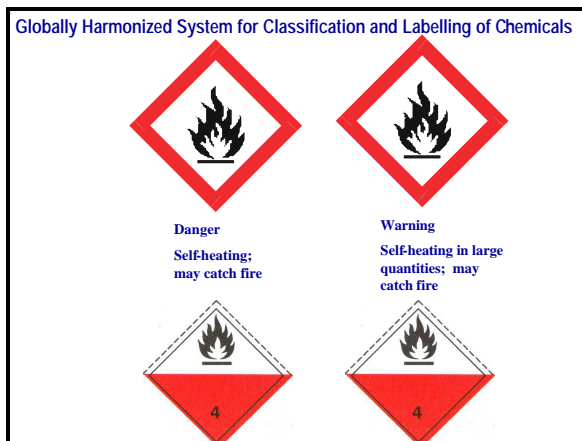


Standard-setting has been very productive in the past and as a result all major hazardous sectors and key hazards are covered by ILO Conventions, recommendations and codes of practice. The most important Conventions are No. 155 on Occupational Safety and Health, No. 161 on Occupational Health Services, and No. 81 on Labour Inspection. (See reference 12.)

The problem is more on the implementation side and, in particular, in developing countries. Two major strategies have been identified for enhanced application and implementation of ILO standards:

- i.* The “Integrated Approach to standard-related activities” aimed at streamlining all the means of action of the ILO, including standard-setting, codes and guidelines, technical cooperation, international cooperation, statistical analysis and information dissemination towards a more effective implementation of occupational safety and health requirements by member States.
- ii.* The use of voluntary measures and, in particular, wide use of the ILO’s new Guidelines on Occupational Safety and Health Management Systems, ***ILO-OSH 2001***. The target is to establish and – at the level of the organization (enterprise) – a proper *safety culture*. Certainly governments have a role in supporting such management systems and establishing a national framework for the promotion of these systems.

**Key recent and ongoing ILO outputs include:**



- ◆ **Convention No. 184 and Recommendation No. 192 on Safety and Health in Agriculture, adopted almost unanimously by the International Labour Conference in June 2001**
- ◆ **Draft Protocol and Recommendation on Recording and Notification of Occupational Accidents and Diseases (discussion in June 2002 at the ILO Conference)**
- ◆ **About 40 ratifications by member States of key ILO Conventions on safety and health**
- ◆ **Code of Practice on Ambient Factors at Work**
- ◆ **Code of Practice on Insulation Wools**
- ◆ **Codes and guides on Radiation Protection**
- ◆ **Guidelines of Occupational Safety and Health Management Systems, ILO-OSH 2001, translated into some 10 languages**
- ◆ **Globally Harmonized System for Classification and Labelling of Chemicals, a joint product of employers, workers and 8 international organizations, UNCED/Agenda 21**
- ◆ **A publication on Fundamental Principles on Occupational Health and Safety**
- ◆ **A Training package on psycho-social factors at work called *SOLVE* on stress, workplace violence, alcohol and drugs, tobacco and HIV/AIDS at work**
- ◆ **A new ILO-AIDS Programme established and launched and linked to UNAIDS**
- ◆ **1,200 Chemical Safety Cards available electronically and as printed in close to 20 languages**
- ◆ **ILO Encyclopaedia on Occupational Health and Safety, translations and various versions (electronic CD-ROMs and Web, and printed) in Spanish, Chinese, Russian, 3 volumes in French, and large components in Korean, Japanese underway**
- ◆ **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**
- ◆ **New modules and methods for and pilot household surveys on occupational accidents carried out in four member States**
- ◆ **National SafeWork Programmes established in several member States and tools and methods developed for establishing such Programmes based on a National Profile**

An important characteristic of the ILO's work in occupational safety and health is collaboration. Traditional links with governments, employers and workers and their organizations are complemented with partnerships and alliances. Such collaboration includes cooperation with other UN and international organizations, in particular, WHO, UNEP, FAO, UNIDO, UNITAR and OECD and IFCS (chemical safety), IAEA (radiation) and professional organizations, such as ICOH, IOHA, and IEA. The national safety and health councils and institutes are equally logical counterparts. Resource mobilization – both financial and technical – requires other types of partnerships.

## Strategies

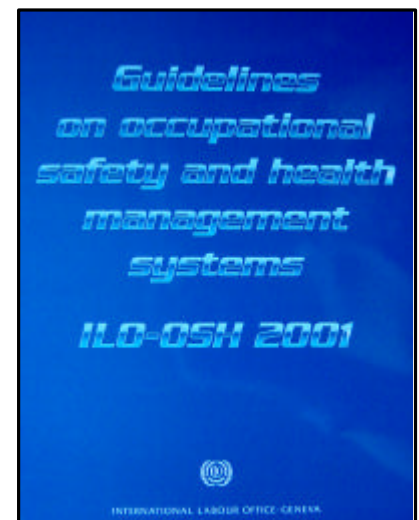
The ILO's traditional strategy – and that of most ILO member States – has involved:

- 1) ILO standards (Conventions, codes) ratified, adapted into national laws, directives, rules and codes of practice and application mechanisms for these.
- 2) Enforcement and advisory services by labour inspection including specialized services (mining, construction and other technical and targeted inspections).
- 3) Knowledge: information services and research.
- 4) Advocacy: training, promotion, partnerships.
- 5) Alliances, technical cooperation and twinning, and resource mobilization.

A new complementary strategy can be based on the principles of occupational safety and health management systems:

- A. At the enterprise level the ILO-OSH 2001 "Guidelines on Occupational Safety and Health Management Systems" can be adapted to the company's needs.
- B. At the sectoral, regional, national and international levels the set up of action programmes based on the ILO-OSH 2001 principles (P-D-C-A, plan-do-check-act) and tripartite collaboration.
- C. A National SafeWork Programme should consist of:

- a national policy;
- a structure and organization – including structures of employers and workers and other partners – and to implement such a policy, this must include setting of clear responsibilities, accountabilities and allocation of resources;
- an implementation plan that has objectives, time limits and targets that can be measured by agreed indicators;
- implementation including the traditional measures listed above
- feed-back, review, auditing and adjustment of the policies, structures and implementation.



## Objectives (an open list)

1. A functioning recording and notification and indicator system to obtain a better picture of the problems and to allow follow up – a national profile or inventory of the state of safety and health at work.
2. Time-bound plan for policy measures, that is a National SafeWork Programme. Such Programme should also include a plan for ratifications of ILO Conventions and setting of national laws and regulations in priority order.
3. Time-bound plan to develop the labour inspection system – quantitatively and qualitatively.
4. Measurable targets to reduce occupational accidents and work-related diseases by targeting their causal factors (say 20% reduction of the accident rate in five years).
5. Extending gradually protective measures – legal and enforcement measures, compensation in the case of accidents and diseases, and occupational health services – for those not yet covered, such as workers in the informal sector, agriculture, and self-employed (increase of percentage of covered work force).

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**Annex : Global Estimates of Fatalities Caused by Work-related Diseases and Accidents, 2002, 3p.**

## Global Estimates of Fatalities Caused by Work Related Diseases and Occupational Accidents, 2002

Causes	EME	FSE	India	China	OAI	SSA	LAC	MEC	Work-related mortality by age	Work-related mortality - men	Work-related mortality - women	Work-related mortality by sex	Work-related mortality, lower limit	Work-related mortality, upper limit
Communicable diseases	11176	2856	97865	11044	27456	139890	20284	9900	320471	108256	517404	625660	320471	625660
Malignant neoplasms	164581	61273	50898	172746	70190	27729	38186	24074	609678	570008	64975	634984	609678	634984
Respiratory systems diseases	16716	9970	13029	77437	7597	6802	6642	7983	146175	127226	17562	144788	144788	146175
Circulatory systems diseases	76595	66493	93237	116324	50319	26076	38564	51646	519255	337129	112214	449343	449343	519255
Neuro-psychiatric conditions	7572	2163	2552	2754	2142	676	1316	1166	20341	18827	5384	24212	20341	24212
Digestive systems diseases	2892	1522	3323	4864	4689	1294	2190	1791	22566	16307	4959	21266	21266	22566
Diseases of the genitourinary system	1833	563	988	1477	1278	564	715	1061	8478	9163	1200	10362	8478	10362
Accidents and violence	16170	21425	48176	73615	83048	54705	29891	28019	354753			354753	354753	354753
<b>Total mortality</b>	<b>297535</b>	<b>166265</b>	<b>310067</b>	<b>460260</b>	<b>246720</b>	<b>257738</b>	<b>137789</b>	<b>125641</b>	<b>2001718</b>			<b>2265369</b>	<b>1929120</b>	<b>2337968</b>

*World Bank Regions:*

EME = Established Market Economies  
 FSE = Formerly Socialist Economies of Europe  
 IND = India  
 CHN = China  
 OAI = Other Asia and Islands  
 SSA = Sub-Saharan Africa  
 LAC = Latin America and the Caribbean  
 MEC = Middle Eastern Crescent

Mortality data for diseases from Global Burden of Disease, year 2000 estimates  
 Fatal accidents data from ILO STAT and SafeWork, year 1998

Reference: [www.ilo.org/safework](http://www.ilo.org/safework)



## Global Estimates of Fatal and Other Occupational Accidents, 2002

	Economically active population	Total employment	Fatalities	Accidents, Lower limit	Accidents, Upper limit	Accidents, Average	Fatal accidents reported to the ILO	3 days' absence accidents reported to the ILO	All accidents reported to the ILO
EME	409141496	380833643	16170	8510494	16169938	12340216	14608	7631977	7646585
FSE	184717127	162120341	21425	11276461	21425275	16350868	8665	582287	590952
IND	458720000	419560000	48176	25355777	48175977	36765877	211	0	211
CHN	708218102	699771000	73615	38744649	73614834	56179742	17804	75773	93577
OAI	404487050	404487050	83048	43709538	83048122	63378830	5631	252499	258130
SSA	260725947		54705	28792223	54705223	41748723	1675	47105	48780
LAC	193426602	114604962	29594	15575673	29593778	22584726	6998	1699107	1706105
MEC	112906300	48635240	28019	14746946	28019197	21383071	1876	191164	193040

WORLD 2732342624 354753 186711760 354752344 270732052 57468 10479912 10537380  
(accident data based on the year 1998)

## Model Calculation for Established Market Economies, both sexes, all selected age groups

Causes	Attributable fraction, EME countries, %	Total deaths in selected age groups	Work related mortality by age
Communicable diseases	8.8	127000	11176
Malignant neoplasm's	8.4	1959300	164581
Respiratory systems diseases	4.1	407700	16716
Circulatory systems diseases	12.4	617700	76595
Neuro-psychiatric conditions	3.4	222700	7572
Digestive systems diseases	2.1	137700	2892
Diseases of the genitourinary system	1.3	141000	1833
Accidents and violence	100.0	16170	16710
<b>Total</b>			<b>297535</b>