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Occupational Safety and Health in Small and Medium-Sized Enterprises During Social and Economic Transformation

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Small and medium-sized enterprises (SMEs) in Central and Eastern Europe at the turn of the 1980s and 1990s were characterised by many people exposed to hazardous working conditions. Statistics recorded a considerable increase in the number of occupational diseases. They also showed that it was more dangerous to work for a small company.

The transition from planned to market economy has brought about an increase in the number of SMEs in Poland. Data on them are provided. The role of the Central Institute for Labour Protection in studying SMEs is presented. A pilot study of employers and employees is discussed.

OSH SME Transformation Central and Eastern Europe

Occupational safety and health (OSH) in Central and Eastern European countries at the turn of the 1980s and 1990s was characterised by a considerable number of people exposed to exceeded levels of health standards on harmful physical agents (e.g., noise, vibration, hot microclimate), chemical agents (e.g., highly toxic, carcinogenic, and allergenic), and fibrogenic dusts (including carcinogenic asbestos). The hazard of injury was also high (lack of machinery working zone safeguarding, lack of proper organization of work and work space, etc.).

Even though there is extensive literature related to the problems of safety and health in enterprises in Poland during transition from planned to market economy, there are no studies of these problems in small and medium-sized enterprises (SMEs). This is surprising as the effects of the

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changes in economy can be expected to be greatest in these kinds of enterprises. These problems are referred to in the context of other issues, with all the information recently published in Brown, Angel, and Derr (2000) and Brown, Angel, Broszkiewicz, and Krzyśków (in press). The present study was taken up in order to supplement this important information.

In 1980, approximately 16.5 m people were employed in the Polish economy. Of this number, studies of the Central Statistical Office (Główny Urząd Statystyczny, 1981) covered 12.7 m, including 1.9 m employed in conditions in which health standards were exceeded.

Despite the yearly inspections of the working conditions at the enterprise level and their analysis at the central level, it was not really possible to improve them. However, lack of employee interest in changing the level of OSH was worst. If health standards were exceeded, employees received additional, so-called “harmful,” benefits. They were very harmful indeed for the improvement of working conditions.

In its first phase, the country’s social and economic transformation brought the end or reduction of production in many enterprises (mainly in the heavy industry). Simultaneously, there was unemployment, not registered previously (Figure 1).

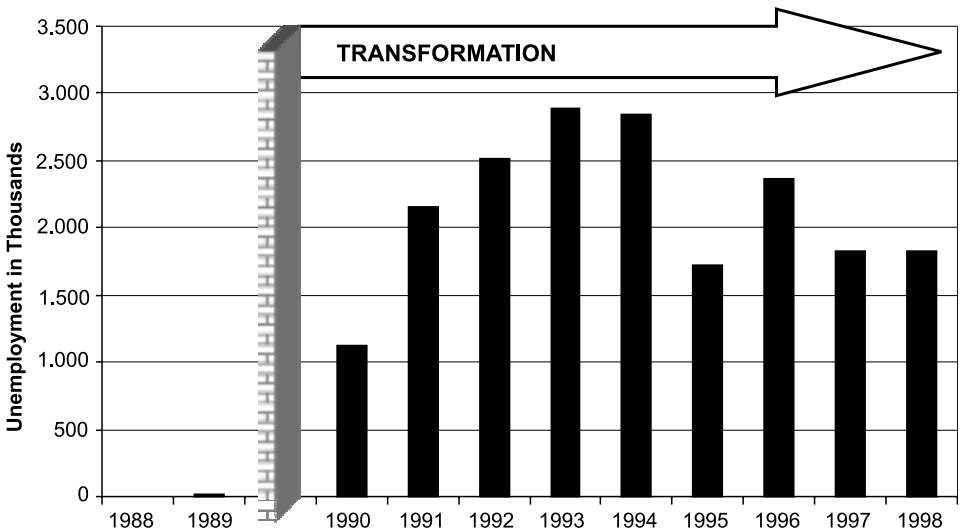


Figure 1. Unemployment in Poland in 1988–1998. *Notes.* Data from statistical yearbooks published annually by Poland’s Central Statistical Office (Główny Urząd Statystyczny).

Between the 1980s and 1990s, there was no significant change in the number of persons employed in hazardous conditions (Figure 2).

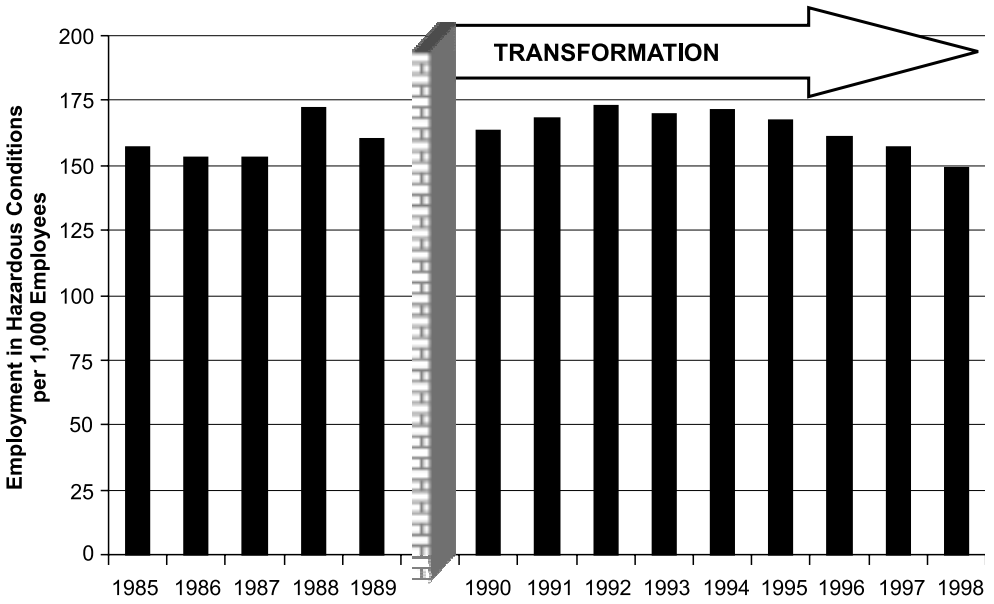


Figure 2. Employment in hazardous conditions in Poland in 1985–1998. *Notes.* Data from statistical yearbooks published annually by Poland's Central Statistical Office (Główny Urząd Statystyczny).

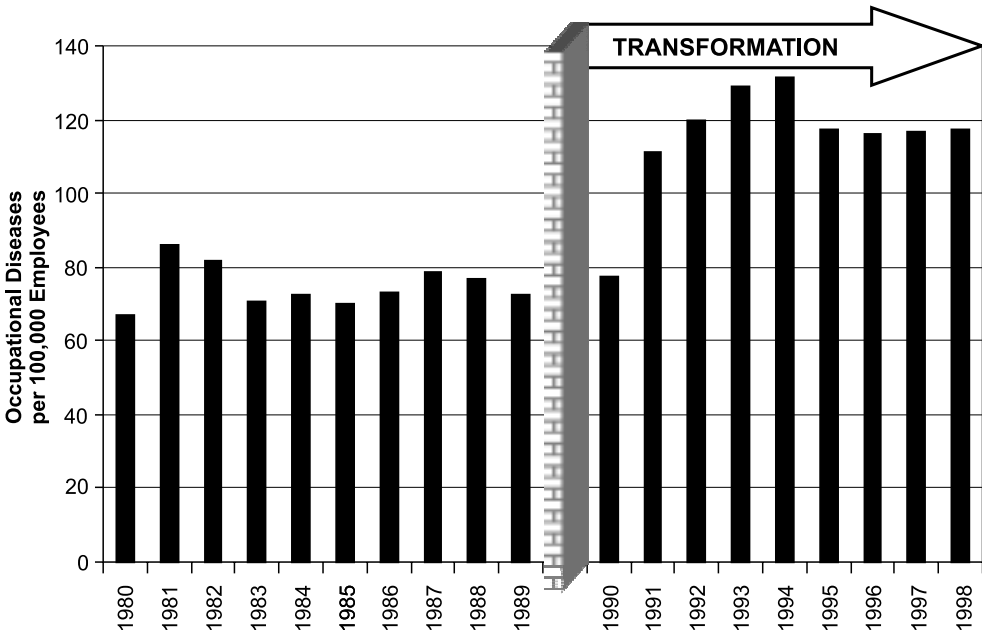


Figure 3. Occupational diseases in Poland in 1980–1998. *Notes.* Data from statistical yearbooks published annually by Poland's Central Statistical Office (Główny Urząd Statystyczny).

At the same time, statistics recorded a considerable increase in the number of occupational diseases (Figure 3), which was indirectly connected with the closing of enterprises.

It should be clearly stated that some decisions were taken for social reasons and concerned employees too old to re-train and too young to retire. These “winds of change” were reflected in statistics and were connected with economic transformation rather than with improved working conditions. On the other hand, accident frequency rates (Figure 4), including those of fatal accidents (Figure 5) decreased.

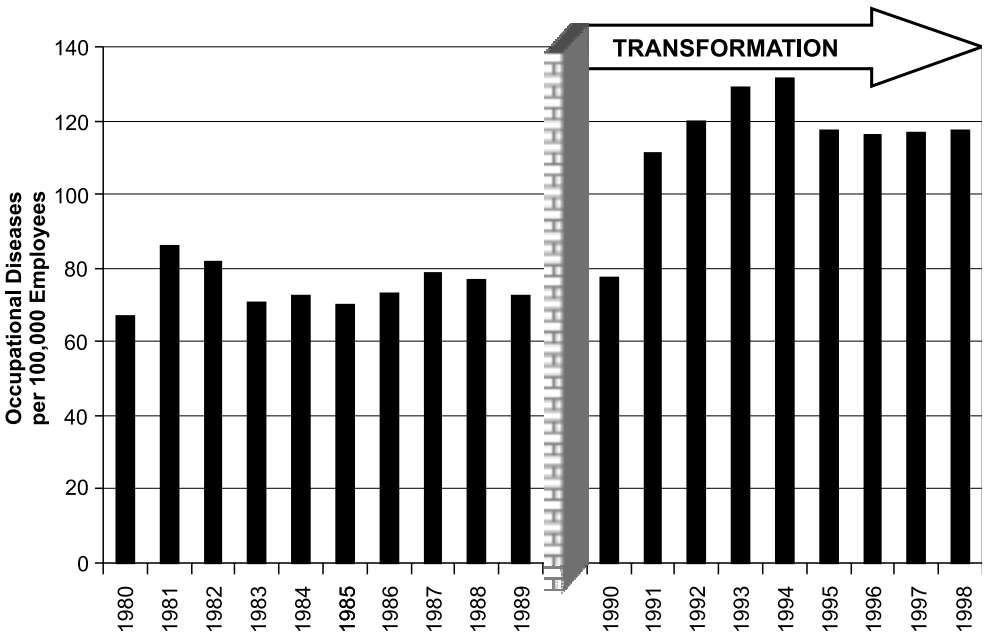


Figure 4. Accidents at work in Poland in 1980–1998. Notes. *—excluding small enterprises (2–3% of employees in the material sector), **—data after 1990 may be underreported as there are no summary reports for the Central Statistical Office in the new system of gathering information. Data from statistical yearbooks published annually by Poland’s Central Statistical Office (Główny Urząd Statystyczny).

There is a need to find out how many SMEs there are in Poland and what the state of OSH in those enterprises is, compared to that around the world and in the European Union (EU) countries. According to Gerry Eijkemans of the World Health Organization (Ahlborg, Ohlson, & Bornberger-Dankvardt, 2000), “Today most new jobs are created in companies with less than 50 employees. About one billion people now work in such companies. Most employees have no access to occupational health services, and their workplaces are not subject to any form of control.”

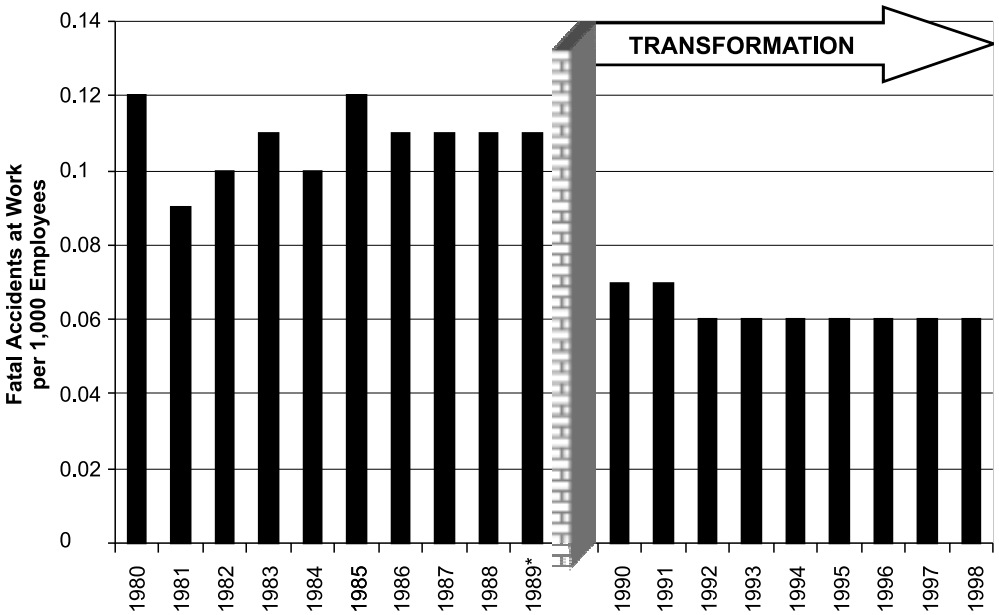


Figure 5. Fatal accidents at work in Poland in 1980–1998. Notes. *—excluding small enterprises (2–3% of employees in the material sector). Data from statistical yearbooks published annually by Poland's Central Statistical Office (Główny Urząd Statystyczny).

In the EU, too, most new jobs are created in small companies. There are statistics that indicate that it is more dangerous to work for a small company. In Germany, most workplace accidents take place in small building companies. In the United Kingdom, the number of amputations in small manufacturing firms is twice that of bigger ones. In Sweden, the risk of fatal accidents is three times bigger in small companies with 5 to 19 employees (Ahlborg et al., 2000).

The economic changes taking place in Poland—in particular the transition from planned to market economy—have brought about an increase in the number of small private enterprises (Figures 6, 7).

In addition to the ever-increasing number of new enterprises, state enterprises are privatised, too. They contribute to the changing structure of all the enterprises as far as, among others, size is concerned, in favour of SMEs.

In Poland the definition of SMEs during the transformation period has been changing (Table 1).

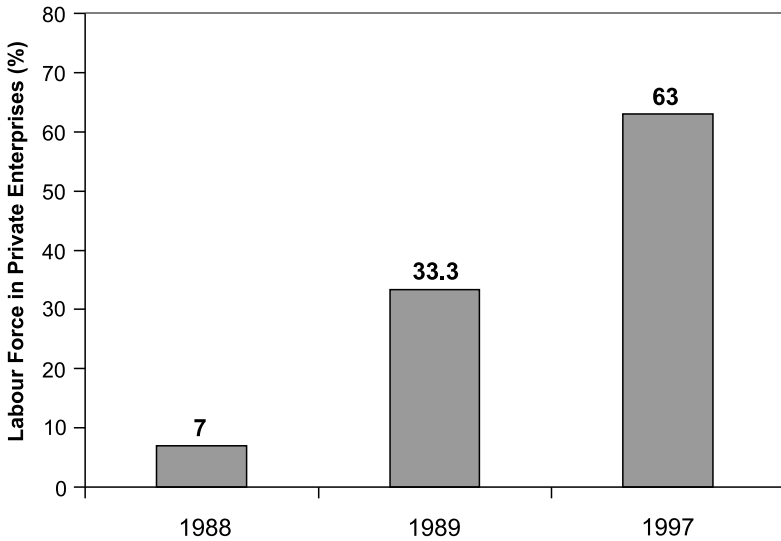


Figure 6. Percentage of labour force in Poland in private enterprises (according to the Central Statistical Office).

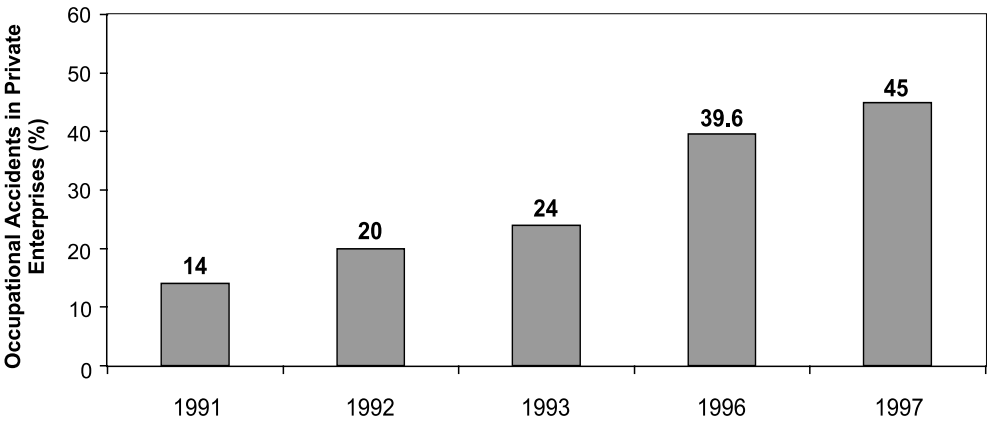


Figure 7. Percentage of occupational accidents in private enterprises (according to the Central Statistical Office).

According to data from the Polish Foundation for the Promotion and Development of Small and Medium-Sized Enterprises, there were 2.4 m SMEs in Poland in 1996. According to the Foundation,

- SMEs accounted for 99% of all enterprises,
- employees of SMEs accounted for approximately 60% of all employees,
- SMEs produced 40% of the gross domestic product (GDP).

In 1992, inspections of the operation of machinery and equipment in small companies carried out by the National Labour Inspectorate revealed

TABLE 1. Definitions of Small and Medium-Sized Enterprises in Poland and in the European Union (EU)

Criteria	Poland (according to the number of employees)				European Union	
	Pre-2000 2	2000-2002 3	Post-2002' 4	Number of Employees 5	A B	B 6
Size of Enterprise 1						
Small	≤ 5	≤ 9	like in the EU (cf. columns 5 and 6)	> 50	A < 7 m euros B > 5 m euros	
Medium-sized	6-9	10-49	like in the EU (cf. columns 5 and 6)	51-250	A < 40 m euros B > 27 m euros	

Notes. 1—The Polish Foundation for the Promotion and Development of Small and Medium-Sized Enterprises has already accepted the EU definition, A—income (net), B—total of balance assets at the end of the previous year.

TABLE 2. Enterprises According to Size, Type of Activity, and Ownership (%; N = 50)

Type of Ownership	Under 10 Employees		11-50 Employees		Over 50 Employees		Total
	Manufacturing	Non-Manufacturing	Manufacturing	Non-Manufacturing	Manufacturing	Non-Manufacturing	
Craft and other private	8	36	8	8	0	16	44
Partnerships	12	8	4	8	8	24	16
Total	20	44	12	16	8	40	60
					0	40	100

Notes. From Derlicka and Shahnnavaz (2000).

that in 52.3% of the enterprises studied, machinery and equipment were out of order or they did not have appropriate safety devices.

In 1994, already 64.5% of enterprises were like that. Similar upward trends were revealed by inspections of fire protection, measurement of dangerous substances, ventilation, lighting, the condition of the work space, obligatory medical examinations, the training of employees, and so forth.

This state of OSH in SMEs could be caused by

- lack of awareness about the causes and results of occupational hazards,
- lack of knowledge about ways to eliminate occupational hazards,
- lack of possibilities (including financial ones) to apply measures for preventing occupational hazards.

Needless to say, most important was the question regarding the importance of OSH both to employers and employees. That is why the Central Institute for Labour Protection took up a pilot study, in which questionnaires were administered to employers (36 items) and employees (32 items).

The employers' evaluation of the state of the working conditions was more positive than the employees' (Figure 8).

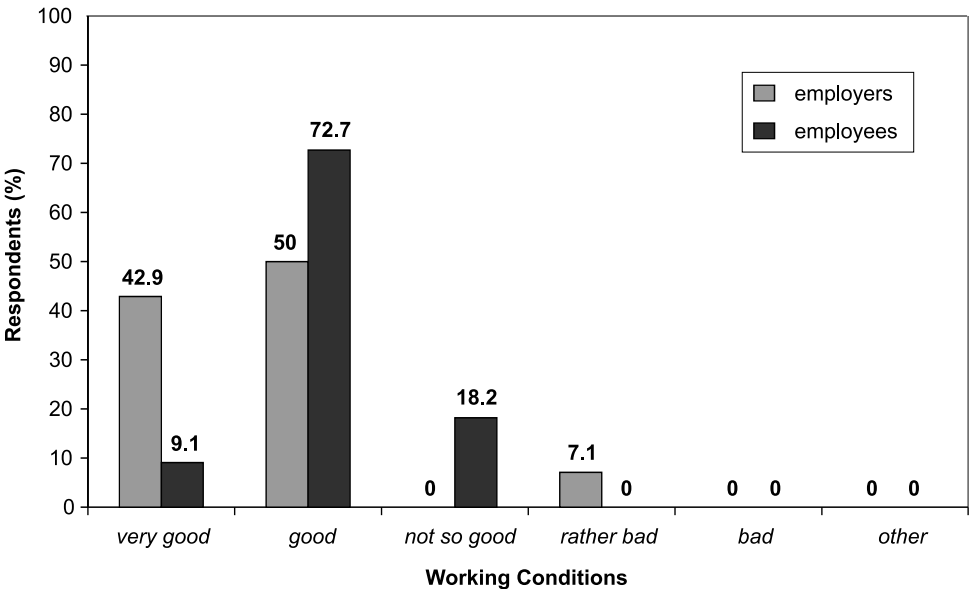


Figure 8. Evaluation of working conditions by employers and employees (Derlicka & Shahnava, 2000).

Over 50% of the employers questioned, when buying goods for their enterprise, did not ask for a quality certificate confirming standard quality

of the product. Safety certificates as well as certificates of admission to the domestic market for imported goods were not checked in almost half of the companies studied (46.4%).

There were no programmes for the improvement of working conditions in 74% of the enterprises (i.e., in 37 enterprises) participating in the study.

Employees of enterprises with no programmes for the improvement of working conditions were not involved in the improvement of working conditions in the plant, even though when asked if they considered that essential, 100% of them responded in the affirmative.

Programmes for the improvement of working conditions existed in 13 of the companies studied (26%). High productivity and efficiency as well as the improvement of work quality constituted the primary goals of programmes for the improvement of working conditions (76.9% each). It was employers who were asked about the goals of the programmes. Their responses are presented in Figure 9.

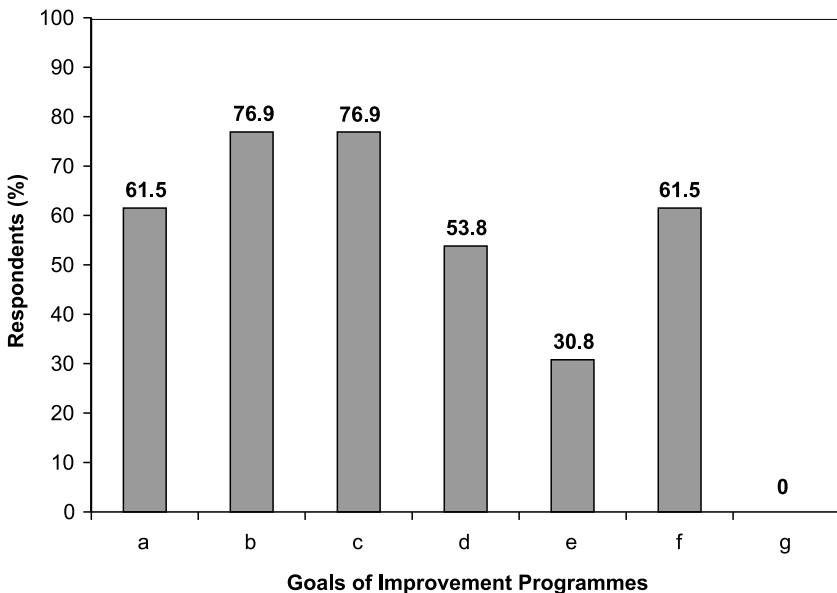


Figure 9. Goals of programmes for the improvement of working conditions (Derlicka & Shahnava, 2000). *Notes.* a—to improve working conditions, b—to increase productivity and work efficiency, c—to improve work quality, d—to solve safety and health problems, e—to improve work relations, f—to increase job satisfaction, g—other.

When carrying out programmes for the improvement of working conditions, employers claimed they needed help of organizations as well as professionals from outside the company. Employers needed this kind of help particularly

in measuring dangerous agents as well as identifying problems negatively affecting the quality of products or the employees' absenteeism.

All employers in whose plants there is a programme for the improvement of working conditions have recently been active in this area. In most cases, this has consisted in investments such as purchasing modern equipment, automation, and computerization.

As conditions with regard to technology and labour force are changing rapidly in small enterprises in Poland, it is important for employers to be aware of the emerging hazards at the workplace that are connected with those changes and to develop programmes for improving the working environment and for motivating employees' involvement in the improvement process.

Lack of knowledge about ways to reduce occupational risk could be noticed in Poland of the 1990s, not only in SMEs. It was clear to everybody, especially to the government and the trade unions, that with working conditions like that Poland would not be able to join the European Union.

Most important was the fact that thanks to transformation, activities aimed at introducing system changes into OSH were undertaken.

In 1995, the government of Poland established a National Strategic Programme "Occupational Safety and Health Protection in the Working Environment (1995–2001)." Its main aim has been to create, within the framework of the state's socioeconomic policy, of an effective system of safety and health protection in view of Poland's association with the European Union. The following undertakings were initiated:

- advancement of legal, organizational, and economic solutions of the system of protecting man in the working environment taking into account international law requirements;
- development and implementation of a modern system of identification and assessment of occupational hazards;
- modernization of the system of technical prevention of occupational hazards and working conditions optimization;
- development and implementation of modern medical prevention and health promotion at the workplace;
- introduction of a modern information and education system in OSH.

As a result of that programme, among other things,

- there are now 410 items on the Polish list of Maximum Admissible Concentrations and Intensities (that number includes everything on the lists specified in the EU directives),

- 197 Polish standards for methods of measuring factors harmful to health in the working environment have been developed,
- 82 European standards on OSH requirements have been implemented,
- a national system of testing and certification for compliance with the requirements of European standards for personal protective equipment and so-called dangerous machinery has been set up,
- a computer system for occupational risk assessment has been implemented.

Of course, several technical solutions reducing hazards caused by noise or reducing risk of mechanical injuries, for example, have also been developed.

There is still the problem of this knowledge finding its way to SMEs, which nowadays constitute about 99% of the total number of enterprises in Poland. The following principles for the transfer of knowledge from the field of OSH to SMEs have been accepted:

- follow the principle of learning by doing;
- share your experience and good examples, use pictures;
- try to involve workers;
- link OSH to management's objectives.

The most important thing is to concentrate on simple and cheap measures that combine OSH and productivity. They make it easier to convince the owner that the measures will pay off.

As an example, the Central Institute for Labour Protection has prepared—in co-operation with the National Labour Inspectorate—guides and OSH checklists, modelled on those of Germany's Berufsgenossenschaftliches Institut für Arbeitssicherheit (BIA, Institute for Occupational Safety of the Accident Insurance Institutions), for a variety of activities typical for SMEs (e.g. in boiler rooms, meat processing plants, vehicle service and repair plants, clothing manufacturing companies, fruit and vegetable processing plants, fitting and machinery construction plants, transport companies, plastics processing plants, wood processing plants, bakeries, printing and bookbinding plants, laundries, restaurants, food shops). Those guides and checklists have been very well received.

Small and medium-sized enterprises have also been the addressees of the seven editions of the Occupational Safety Poster Competition organized by the Central Institute for Labour Protection. Those competitions had stress, risk, computer, noise, chemicals, ergonomics, and accidents in agriculture as their subjects. Approximately 1,400 posters have been submitted, of which 350 have

been presented at exhibitions; 21 were awarded prizes and 35 received distinctions. Those posters are becoming very popular not only in Polish enterprises and institutions; they are also illustrations in a number of EU publications (e.g., O'Neill, 1999).

To recapitulate, social and economic transformation of Poland has had a positive influence on occupational safety and health in bringing solutions related to human, technical, and organizational aspects of the work process. This is also true of the new enterprises, which are as a rule small and medium-sized. Research initiated with this study should be continued as the effects of social and economic transformation are bound to have a clear effect on the problems of the protection of health of the employee in small and medium-sized enterprises.

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