ECONOMIC AND SOCIAL SIGNIFICANCE OF ENVIRONMENTAL PROTECTION AND OCCUPATIONAL SAFETY - EXAMPLE OF SERBIA AND CROATIA[1]

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Abstract

The goal of this research is to establish the economic and social significance of environmental protection and occupational safety on the state level based on the analysis of the current situation in Serbia and Croatia. Descriptive methods were used in the course of research, combined with an analysis of primary and secondary sources and statistical analysis of publicly available data and indicators of the current situation and investment in the protection of working and living environments in Serbia and Croatia, as well as a comparative analysis of problem areas in both states. The hypotheses have been confirmed, according to which environmental protection and occupational safety have a specific and great economic and social significance in both Serbia and Croatia. Numerous statistical and macroeconomic indicators that are related to the issues of environmental protection and occupational safety confirm their economic aspect which is of such level of significance that it can affect the national economic and social development. Specific characteristics arise from socioeconomic and geographical characteristics of Serbia and Croatia. Environmental protection and occupational safety are especially brought into a relationship with corporate social responsibility and responsible management which have implications on sustainable development and the future of countries preparing for accession or already in the phase of joining the European Union.

Keywords: *economic development, environmental protection, occupational safety, social development, sustainable development*

1. INTRODUCTION

1.1. Subject matter of research

Today's business systems management, and therefore the economic and social development on all levels, is becoming increasingly reliant on socially responsible business management, with responsible behaviour towards human beings, communities and the environment as the key feature. Technological development, which is the basis of economic and social development, unquestionably brings new safety and health risks to the working and living environments, communities and our eco-system. The danger comes from overexploitation of limited natural resources and numerous pollutants damaging the environment and posing a danger to environmental safety and resulting in occupational injuries and illnesses analysed in the field of occupational safety. Certainly, the realization of risks comes with financial and other costs, which can be so high on the state level that they can become an important economic factor having a negative impact on the social development.

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According to Drucker (Drucker, 2005, pp 23) 'companies are like public institutions, they are the organs of society. They do not exist for themselves, but in order to fulfil a specific social purpose and meet specific needs of a society, a local community or an individual'. Therefore, they are not a goal, but 'means' to a goal and they have to contribute to the 'qualify of life' of the modern human and society. That way social responsibility has become one of the most important dimensions in modern management. The main idea behind the concept of corporate social responsibility is that business organizations adopt and independently and at their own discretion apply business practices and make investments that support social goals for the benefit of the overall community and protection of the living environment (Kotler, Lee, 2009, pp 201). An efficient level of environmental protection management, from the economic viewpoint, is achieved at the intersection of borderline expenses made to reduce environmental pollution and borderline benefits of pollution reduction (Goodstein, 2003, pp 137).

One of the biggest challenges of our time is how to ensure economic development and at the same time protect nature, nature's resources and the environment and prevent them from being endangered and exhausted. European policy today to the greatest extent relies on the idea of sustainable development, which is confirmed by the EU 2020 Strategy. Sustainable development sets a unique requirement for each society challenging them to answer the challenges of modern age, risks and perils of various kind and character in both the working and living environment, but also possible economic and living crises in the future (Nikolić, Živković, 2010). The road to sustainable future requires improvement in the quality of living, meaning that natural resources have to be used in a sustainable way, thus promoting healthy living in a clean environment. On that road fundamental changes in the ways our society functions are prerequisite, same as changes to production, consumption and industry sectors, i.e. energetics, civil engineering, transport, etc. Sustainability surpasses the aspects of environmental protection and requires a long-term and unique public process of decision-making ensuring the development of a consciousness about compromises between nature, ecology and social spheres (Nikolić, 2011).

The biggest challenge decision makers are facing is how to ensure adequate and sustainable sources of finance for investment in environmental protection, which, at this moment, is made even more difficult due to the economic crisis and global recession. Serbia and Croatia have initiated the process by adopting a series of laws and strategic documents to regulate this area. In addition to social and economic significance of these issues, the underlying motive for investing in projects dealing with protection and safety in the working and living environment are, certainly, the processes involved in accession of both countries to the European Union.[2]

In general, safety can be defined as a state and level of resilience and protection against all risks, i.e. the possibility of being exposed to danger. Accordingly, safety and risk are reverse proportional. The level of safety increases with the mitigation of risk. The number of risks indicates that there is no such thing as absolute safety, but one strives toward maximum safety that is achievable by applying protective measures that reduce risk exposure. On such bases Javorović (Javorović, 2002, pp23) defines safety as 'a state that enables normal continuation of all natural and social, i.e. vital and developed (usual, achieved) functions and maintenance and development of created and acquired values and qualities'. Kacian says (Kacian, 2000, pp 70) that 'safety at work is an interdisciplinary and multidisciplinary scientific area'. The interdisciplinary character comes from the fact that it exceeds the domain of the existing structure of fundamental sciences and derived scientific disciplines, and the multidisciplinary

[2] All former members of the Socialist Federative Republic of Yugoslavia have accepted integration in the EU as a goal of the foreign policy. Croatia has gone further than Serbia, as the Treaty of Accession of Croatia to the European Union was signed in Brussels on December 9 2011.

character is shown in that it is a new field of science encompassing multiple disciplines that converge or intertwine here thus making an interdisciplinary and multidisciplinary field dealing with the protection of life and health and work and material goods. Closely related are work organization, engineering, technology, occupational medicine, ergonomics, anthropology, occupational law, pedagogy, andragogy, psychology, ecology, sociology, economic science, etc. Occupational safety is a set of conditions enabling normal process flow and enabling smooth running of business operations, thus enabling the achievement of better economic results. In modern market economy safety at work and protective measures aimed at preventing occupational injuries are becoming increasingly important and, in addition to the human aspect, their social and economic implications are gaining significance as well. (Hitrec, 2003; Spasić, 2003; Spasić, Kožuh, Avramović, 2011).

The total number of working days lost due to occupational injuries and illnesses in the form of direct costs combined with the related indirect costs can amount to a total of 2-4 % GDP in the developed countries. These are the estimates of the European Agency for Safety and Health at Work (http://europe.osha.eu.int). According to their sources in the EU in recent years due to an average of 5 million occupational injuries per year the total number of working days lost reaches 150 million. According to ILO (http://www.ilo.org), an average of 120 million workers are injured at work in the world each year; 1.5 million are left permanently disabled and every year an average of 220 thousand workers are fatally injured at workplace.

Economic, i.e. financial goals of occupational safety are achieved by occupational safety management. Based on that Petersen (Petersen, 1996; 1996; 2003; 2005) links scientific methods and managerial techniques to create 'safety management techniques' and based on the 'goal-oriented safety management concept' for the purpose of performing a 'safety system effectiveness analysis' in accordance with the laws of economy and principles of management establishes 'standards for monitoring safety system performance'. The socioeconomic value and importance of occupational safety management is mirrored in the following: long-term sustainable way of reducing the probability of the occurrence of occupational injuries and illnesses and the resulting consequences; establishing preventive activities in an organized way - distribution of responsibility for health and safety at work across all levels; integration of activities and occupational safety measures in the business system and organization's decisions; change in the attitude toward occupational health and safety - participation of employees in the establishment and monitoring of occupational health and safety goals and upgrading quality of working conditions, business management, and, finally, the life of the whole community (Živković, 2008; Živković, 2010).

The need and justifiability of environmental protection and occupational safety have been recognized by the International Organization for Standardization (ISO, http://www.iso.org) and translated into international standards and guidelines for implementing environmental management (ISO 14001) and occupational health and safety management systems (OHSAS 18001).

1.2. Research problem

It is scientifically and socially justified to formulate the **following research question:** What is the economic and social significance of environmental protection and occupational safety? The answer will be provided following the analysis of the research study results gathered in the two neighbouring countries: Serbia and Croatia.

2. METHODOLOGY

2.1. Goal

The goal of this research is to establish the economic and social significance of environmental protection and occupational safety on the state level based on the analysis of the current situation in Serbia and Croatia.

2.2. Hypotheses

H1: Environmental protection and occupational safety have a specific and great economic and social significance in Serbia.

H2: Environmental protection and occupational safety have a specific and great economic and social significance in Croatia.

2.2. Methods

Within the scope of the descriptive research method, different procedures and techniques were used that are related to the analysis of relevant primary and secondary sources, statistical analysis of available data and the indicators of the current situation and investment in the protection of the working and living environments in Serbia and Croatia and the comparative analysis of the problem areas in both countries, all aimed at adopting certain conclusions.

3. ECONOMIC AND SOCIAL SIGNIFICANCE OF ENVIRONMENTAL PROTECTION AND OCCUPATIONAL SAFETY IN SERBIA

3.1. Economic and social significance of environmental protection in Serbia

Environmental protection statistics and research overview

The Republic of Serbia is located in the central part of the Balkan Peninsula, covering 88,361 square kilometres. The demographic analysis shows that in the last decade the number of inhabitants gradually but constantly decreased [3] - In 2008 population was about 7,365,507, with average 95 citizens per square kilometre, of which about 60% living in towns. At the same time, the Aging Index grew from 69.0% in 1991 to 103.2% in 2007. The new conditions of social and economic development, especially transition processes and privatization caused an increase in unemployment, which was 19.2 %, in 2010 which is very high. (http://www.sepa.gov.rs). The economic crisis caused loss of employment, stopping income increase while reducing retirements and increasing income inequality gap. Absolute poverty rate was 9.2% in 2010 and continuing to grow. Poverty is 'the biggest enemy of environmental protection', because poor people can hardly afford the 'luxury' of protecting the environment even though they feel the consequences of ecological problems most directly (climate changes, lack of water, extraordinary situations [4] etc.). A major weakness of the ecological policy is in that it is focusing on sustainable consumption instead of sustainable production. Ecological damage and problems can be viewed closely related to the lack of corporate responsibility, especially when it comes to industries' investment in advertising to stimulate excessive consumption. In relation to that, corporate taxation and establishing corporate social responsibility as mandatory and not voluntary could be crucial on the way to achieving ecological sustainability.

The Republic of Serbia adopted the National Strategy for Sustainable Development 2008 - 2017 (NSOR) and consecutively the Action Plan (at the beginning of 2009). It is third year now since NSOR monitoring started and NSOR implementation reports and reporting on the implementation of NSOR Action Plan on an annual level have begun. However, in the

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[3] In Serbia the question of its demographic future is raised quite often. It is estimated that by 2050 the population in Serbia will have decreased by 0.5 mil, reaching 6.3 mil (total fertility rate is 1.4 and 2.1 is required for securing generation replacement) (Rašević, M., 2009; World Population Policies, 2006).

[4] In the last two years Serbia was faced with two extreme situations: An earthquake in Kraljevo in 2010 and extremely low winter temperatures and precipitation end-January - early February 2012.

operationalization and realization of declared principles of sustainable development progress has been very modest.

The implementation of NSDS (Serbian National Sustainable Development Strategy) did not come with a corresponding distribution of state and other financial resources or corresponding interministerial support. The indicators of sustainable development show stagnation or minor progress: industrial production is underdeveloped and characterized by out-of-date technology; lack of energy and efficient resource management is evident; excess waste production and inadequate waste management; concept of cleaner production and BAT concept are still not sufficiently used. The influence of pollutant emissions from energy facilities is still very high so Serbia, in that aspect, falls behind more developed countries and EU standards. The living environment in Serbia is rather unfavourable, which is the result of unsolved problems from the past and lack of concrete measures in all key sectors that have a prevailing influence on the living environment.

The biggest polluter in Serbia, especially responsible for air pollutant emissions, is the energy sector, mostly because the main fuel in use is domestic lignite which is burned in out-of-date power stations without implementing technology for reducing adverse effects. Surface coal and copper mining has caused serious soil degradation. It is estimated that depots with mining residuals contain from 1.4 to 1.7 billion tons of waste-rock and overburden. In agriculture the use of fertilizers has been reduced which caused a significant decrease in the eutrophication of waterways. Main water pollutants are non-purified industrial waste and sewage water, agricultural drainage systems, landfill discharges and pollution caused by river traffic and thermal power plants. Erosion is the main cause of soil degradation; estimates show that 80% of agricultural land in Serbia is affected. Average annual production of waste per citizen is 290 kg. Households produce 63% and companies about 20% of municipal waste. Landfills are the primary method of waste management. (Overview, Republic of Serbia, 3/2007).

The degradation of the living area is indirectly or directly harming the health of the population, and influencing the physical state and social well-being of citizens. All of these indicators actually implicitly show the need and social importance of environmental protection. Social development and education[5] are a precondition to achieving quality living, and the atmosphere of striving toward health and environmental protection, while at the same time economic development, employment and safety at work are preconditions to physical safety, mental well-being and quality of working life (Aranđelović, 2009). The new sustainable approach requires a change in the attitude and behaviour of all participants in the economic and social development[6].

Environmental protection in Serbia is regulated by a developed legal infrastructure: environmental protection, evaluation of influence on the environment, strategic assessment of influence on the environment, integrated prevention and pollution control, the Danube River Protection Convention has been ratified, as well as several European conventions on environmental protection. Also National Strategy for Environmental Protection was adopted

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[5] Education in the Republic of Serbia is not sufficiently leveraged financially; the educational structure of population is rather poor as over one fifth of the population over 15 years of age have not finished elementary school and almost half of the population have no qualification at all (http://www.ekoplan.gov.rs). It is encouraging that systematic activities have been made to implement environmental protection education programs in all segments of the educational system. (Nikolić, 2003).

[6] Social and economic development "Stimulating factors" (PF) are, in a way causing "Pressure" (P) on the living environment and as a result changes occur in the "State" (S), which leads to various "Influences" (U) on human health and the entire eco-system, eventually provoking response or "Reaction" (R) from the society having feedback effect to the activities of social and economic development.

in 2006 together with several strategies for various sectors regulating this area. The founding of the National Council for Sustainable Development (2003) and the Serbian Environmental Protection Agency (2004) and, especially, the re-establishing of the Ministry of Environmental Protection (2007) indicate that the need and importance of environmental protection have been recognized same as the need for institutionalization when it comes to dealing with these pressing issues.

The main sources of finance for environmental protection in the Republic of Serbia are the state budget and income from fees, but funding also comes from donations, loans, international aid, EU and UN instruments, programs and funds and from other international organizations. Data analysis shows a significant increase in total funding available for environmental protection. The total amount of funding from all sources in 2006 amounted to 7,078.67 million dinar, i.e. 0.37% GDP, while in 2010 it amounted to 19,544.92 million dinar or 0.66% GDP.

The investments and current expenses for environmental protection include all expenses made to prevent, remedy or reduce negative influence on the environment. According to the data of the Statistical Office of the Republic of Serbia (2011), the investments and current expenses for the period 2006-2009, the total amount of funding for investments and current expenses after the drop in 2008 (which could be one of the consequences of a decrease in investments end 2008 caused by the global economic crisis), in 2009 grew by 120%, which is a consequence of a significant increase in investment in environmental protection and protection of air and waterways. In the structure of funds invested in 2009, the major share belongs to environmental protection (30%), air protection (28%) and noise protection is last with 0.4%.

One of important economic instruments used in environmental protection in Serbia are fees for polluters on the 'polluter pays' principle and fees for the use of natural resources, which are aimed at promoting reduced impact on the environment. The share of international financial aid and donations for environmental protection in the total amount of aid and donations in Serbia in 2010 was only 1.65% and 4.07% respectively, while in 2010 the European Commission provided, until now, the biggest funding in the amount of 1,066.5 million dinar, followed by Sweden with 208.59 million dinar, Czech Republic with 30 and Norway with 16 million dinar.

Environmental Management System Certification Statistics (ISO 14001)

With a goal of preventing environmental pollution resulting from industrial production, through EMS implementation in Serbia certification for SRPS ISO 14001, EMAS and Eco-label is monitored, as well as implementation of cleaner production processes in the companies operating in Serbia. One of key areas of corporate responsibility from the aspect of environmental protection and improvement of the environment is the development and use of clean technologies. The term 'clean technology' includes every product, service or process that yields usable value with minimum (or no) use of non-recyclable resources and/or at the same time causes far less waste products compared to standard solutions. By the end of 2010 in Serbia 188 organizations earned SRPS 14001 certificate and cleaner production was launched in 35 companies (http://www.sepa.gov.rs).

3.2. Economic and social significance of occupational safety in Serbia

Statistical Data on Occupational Safety

According to official records, in 2010 in Serbia a total of 1322 occupational injuries were recorded. That includes 35 fatalities at workplace or due to work-related injuries, 1,026 severely injured, 29 collective and 232 minor injuries at workplace.

Research overview

Based on the study of the role and importance of persons responsible for occupational health and safety in companies in the Republic of Serbia conducted by Živković (Živković, 2011) which involved 1,075 participants, it was revealed, among other things, that OHS officials are aware that a mere increase in the number of OHS employees is not the key precondition to their achieving better results and higher level of safety at workplace. They are aware that such progress requires planning and implementation, primarily professional training, acquiring new knowledge in the field of management and better IT support with adequate financial compensation for their work.

A successful OHS system for a company in Serbia means:

- reducing potential financial losses caused by extraordinary events that could have been avoided to a minimum;
- increased productivity;
- lower rate of absence from work;
- better motivation and employee dedication to work;
- better reputation and company, i.e. higher brand value;
- ensuring a systematic approach in risk evaluation and securing funding for occupational risk assessment and control.

Care for employee health and safety is important from the perspective of human resources management and from the economic aspect. Companies need healthy employees able to meet the daily challenges of work, who are productive and whose work is economically profitable. On the other hand, only employees who are satisfied with the level of protection of their legal rights and interests in the employment relationship can be satisfied with their social status and successful in their work. Both the executive management and employees should make a maximum effort to preserve and protect health and safety at work. Since the efficiency of OHS depends on the level of engagement of all factors, on the corporate and all other levels, safety and health at workplace should become an integral part of every employee's life, part of the general culture and what happens in every company and society (Živković, 2011).

A conclusion can be drawn from the above that occupational health and safety affect every company's productivity and efficiency and the quality and competitiveness of their products and services on the market. That is why an employer has a direct interest in making OHS as efficient as possible. That is why every investment in OHS measures is a good investment.

4. ECONOMIC AND SOCIAL SIGNIFICANCE OF ENVIRONMENTAL PROTECTION AND OCCUPATIONAL SAFETY IN CROATIA

4.1 Economic and social significance of environmental protection in Croatia

Environmental protection statistics

In Croatia statistical data and reports on environmental protection on the state level are made and published by the Croatian Bureau of Statistics (http://www.dzs.hr).

Among the actual statistical reports, in the context of economic and social significance of environmental protection in Croatia, special emphasis can be put on the investments in environmental protection and waste management.

1) Investments in environmental protection (2010)

The total investments in environmental protection in 2010 amounted to 2.232.283.000 kuna (297.637.733 €).

End-of-pipeline investments amounted to 63.6% (1.420.769.000 kuna, 189.435.867 €) of the total amount and investments in integrated technologies to 36.4% (312.144.000 kuna, 41.619.200 €).

In the total amount of investments, investments in air and climate protection accounted for 16.8%, in waste water management for 15.6%, in waste management for 7.6%, in protection

and sanitation of soil, ground and surface water for 11.9%, in noise and vibration abatement for 6.3%, in protection of biodiversity and landscape for 2.4%, in protection against radiation for 2.0% and in other environmental protection activities for 37.4%.
The total current expenditures for environmental protection in 2010 amounted to 1.447.335.000 kuna (192.978.000 €). In the total amount of current expenditures for environmental protection, air and climate protection accounted for 5.6%, waste water management for 26.9%, waste management for 44.6%, protection and sanitation of soil, ground and surface water for 8.8%, noise and vibration abatement for 0.1%, protection of biodiversity and landscape for 3.3%, protection against radiation for 0.1% and other environmental protection activities for 10.6%.
The total environmental revenues in 2010 amounted to 2.174.666.000 kuna (289.955.467 €). In the total amount of environmental revenues, revenues from providing environmental protection services accounted for 80.8%, revenues from selling by-products of environmental protection-related activities for 18.1% and savings from using own by-products of environmental protection-related activities for 1.1%. In the total amount of environmental protection-related activities, air and climate protection accounted for 48.1%, waste water management for 22.4%, waste management for 28.3%, protection and sanitation of soil, ground and surface water for 0.4%, noise and vibration abatement for 0%, protection of biodiversity and landscape for 0% and other environmental protection activities for 0.8%.

2) Waste (2010)

In 2010, the total quantity of wastes generated in reporting units amounted to 3.157.963 t. Municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions made 49.1% (1.551.622 t), wastes from waste management facilities, off-site waste water treatment plants and the water intended for human consumption and water for industrial use made 14.0% (441.051 t), construction and demolition wastes (including excavated soil from contaminated sites) made 8.0% (252.845 t), Wastes from wood processing and the production of panels and furniture, pulp, paper and cardboard made 6.3% (199.705 t), wastes from thermal processes made 5.1% (161.448 t), wastes from agricultural, horticultural, aquaculture, forestry, hunting and fishing, food preparation and processing made 4.8% (150.670 t) and other groups of wastes made 12.7%.
Oout of 133 640 t of incinerated waste, 110.067 t (82.4%) were incinerated with recovery of energy and 23 573 t (17.6%) on the land. Tthe total of 403.242 t of wastes were recovered.
The disposed wastes amounted to 1 629 385 t. Out of the total quantity of disposed wastes (1 629 385 t), municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions made 73.4% (1.196.480 t), wastes from inorganic chemical processes made 3.5% (56.290 t), construction and demolition wastes (including excavated soil from contaminated sites) made 8.0% (129.845 t), wastes from agricultural, horticultural, aquaculture, forestry, hunting and fishing, food preparation and processing made 5.2% (85.340 t), wastes from waste management facilities, off-site waste water treatment plants and the water intended for human consumption and water for industrial use made 4.6% (74.936 t) and other groups made 5.3% of disposed wastes.

Environmental Management System Certification Statistics (ISO 14001)

According to the data published on the Croatian web site on quality (http://www.kvaliteta.net/okolis/) in Croatia by end-2011 a total of 672 environmental management systems received certification according to the international standard ISO 14001.

4.2 Economic and social significance of occupational safety in Croatia

Statistical Data on Occupational Safety

1 Table: Statistical data on occupational safety in Croatia (2001-2010)

Year	Number of employees	Number of injuries at workplace	Number of injuries at workplace per 1000 employees	Number of lost work days due to occupational injury	Number of fatal occupational injuries and work-related injuries	Number of occupational illnesses	Number of lost work days due to occupational illnesses	Total number of lost work days
1.	2.	3.	4.	5.	6.	7.	8.	9.
2001	1,305,192.	21,744.	31.	547,949.	42.	91.	2,666.	550,615.
2002	1,333,755.	21,184.	30.	533,837.	44.	71.	2,080.	535,917.
2003	1,349,535.	23,042.	47.	580,658.	50.	124.	3,633.	584,291.
2004	1,378,057.	25,776.	37.	956,495.	47.	113.	3,309.	959,768.
2005	1,400,450.	24,396.	45.	1,062,964.	61.	73.	2,138.	1,065,102.
2006	1,426,594.	24,932.	46.	1,108,323.	58.	65.	1,885.	1,110,208.
2007	1,480,972.	25,179.	41.	1,214,739.	44.	73.	1,898.	1,216,637.
2008	1,518,973.	25,064.	38.	1,473,659.	45.	145.	3,195.	1,447,674.
2009	1,498,784.	20,269.	39.	1,173,944.	51.	197.	5,122.	1,179,066.
2010	1,432,454.	18,656.	34.	1,213,797.	36.	250.	6,250.	1,220,047.
∑	-	230,242.	-	9,866,365.	478.	1,202.	32,176.	9,869,325.
min	1,305,192.	18,656.	30.	533,837.	36.	65.	1,885.	535,917.
max	1,518,973.	25,776.	47.	1,473,659.	61.	250.	6,250.	1,447,674.
average	1,412,477.	23,024.	39.	986,637.	48.	120.	3,218.	986,933.

Source: Adjusted and calculated according to Pap, 2011, pp 207

In Croatia in the last decade (2001-2010) 230,242 occupational injuries occurred (annual average of 23,024), 478 fatalities (annual average of 48). In relative terms, that means that per 1000 employees an average of 39 occupational injuries were recorded. In the same period 1,202 occupational illnesses were recorded (annual average of 120). Due to occupational injuries and illnesses in the last decade a total of 9,869,325 working days were lost (annual average of 966,933).

Three indicators of the level of occupational safety clearly confirm the economic and social importance of occupational safety in Croatia on the state level.

In the absence of other publicly available macroeconomic indicators and data showing the level of occupational safety, and especially costs of implementation of occupational safety on the state level, further analyses are not possible. That problem shows that there is a need to establish a consistent and comprehensive information and knowledge management system for information and knowledge on occupational injuries and illnesses (Taradi, 2011) based on modern information and communications technology.

Occupational Health and Safety Management System Certification Statistics (OHSAS 18001)

According to the data published on the Croatian website specializing in quality (http://www.kvaliteta.net/ohsas/) in Croatia by end-2011 a total of 106 occupational health and safety management systems received certification according to the international standard OHSAS 18001.

Research overview

Current research (Vojak, Plazonić, Taradi, 2011) shows that the cost of occupational injuries and illnesses to GDP ratio in Croatia in the period 2000 - 2009 averagely amounted to 0.40%, and ranged from 0.25% (in 2002) to 0.60 % (in 2008).
It should be mentioned that the Research of the Problematic of Organization and Functioning of OHS Departments in Croatian Companies (Taradi, 2009) and the Research of the Problematic of Work of Independent OHS Experts in Mid-Sized Organizations in Croatia (Taradi, 2010) among other things revealed that the participants, i.e. OHS experts, when asked to evaluate to what extent is occupational safety viewed as an economic factor important for the overall economic system gave low grades, same as when asked to evaluate how general public and the society perceive and value occupational safety as a social value.

5. CONCLUSION

In the research process and with the use of selected scientific methods that proved appropriate, the research goal was accomplished: the economic and social significance of environmental protection and occupational health and safety on state levels was established based on the analysis of the current situation in Serbia and Croatia.
The hypotheses have been proven according to which environmental protection and occupational safety have a specific and high economic and social importance in Serbia and Croatia. That can be concluded based on the analysis of the results of research studies conducted in the two states. Numerous statistical and macroeconomic indicators related to environmental protection and occupational safety confirm their economic aspect which is of such significance that it can affect the national economic and social development. Specific features arise out of social-economic and geographical characteristics of Serbia and Croatia. Among the common characteristics shared by the two states, the harmonization of strategic determinants and environmental protection and occupational safety legislation with international and especially EU law stands out and efforts invested towards applying for international projects and financial aid for, primarily, environmental protection enhancement projects. There is a positive upward trend in the implementation of EMS according to ISO 14001 and OHSAS according to OHSAS 18001.
A few modern concepts have influenced the theory and practice of planning and directing future social and economic developments as did the concept of sustainable development. This concept outlines the process of searching, which is open toward results and consequences that emerge from various principles, integrates political constitution, time dimension, and starts from the premises of specific culture, tradition; system of values and it is multicultural and multilingual. The road to sustainable development is not an easy one. Changes in the economic and social progress and progress in environmental protection are immense and demand a lot of effort involved in planning, implementation, investment and control, but they will lead to the fulfilment of millennium goals that represent the guarantee of basic human rights: the right to a healthy living environment, safety, health, education, etc. Environmental protection and occupational safety are especially linked to corporate social responsibility and responsible business management by which certain implications are made related to the sustainable development and future of the countries that are undergoing a process of preparation for accession or are already in the phase of accession to the European Union.
Both Serbia and Croatia are on the way to open postmodern society integrated in a globalist world, trying to benefit from labour, goods, capital and knowledge mobility. The climate for such changes is not favourable: economic crisis, demographic issues and other risks in the living and working environment typical of post-transitional societies. Answers to these and other challenges of sustainable development can and should be in international cooperation,

exchange of knowledge, experience, good practices and learning from others and with others. Risks in the working and living environments and other challenges of modern age imperatively bind everyone to build the present we are living in and the society of knowledge on the road to sustainable development we wish to achieve in the future.

A follow-up empirical and systematic research of the specific features of economic and social significance of environmental protection and occupational safety in Serbia and Croatia is required as well as comparison of results, between the two states and neighbouring countries.

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