

# **OPTIMALISATION OF THE PERFORMANCE OF THE ENVIRONMENTAL MANAGEMENT SYSTEMS**

**András POLGÁR**

**The University of West Hungary Faculty of Forestry**

**Institute of Environmental and Earth Sciences**

**H-9400 Sopron, Bajcsy-Zsilinszky Str. 4.**

**e-mail: apolgar@emk.nyme.hu**

The global environmental and social problem needs the active contribution of firms and other organizations too. The usage of the environment is mostly caused by their processes (production and service). The problem can be summarized in the question: "How should the organizations work if they want to establish a better world?"

Environmental Management System (EMS) is the part of the management system of an organisation with the task to formulate and introduce the organisation's environmental policy and handle the environmental factors. The advantage of the systems standardised by international organisations is that they may be certified by specialised bodies of certification (e.g. ISO 14001, EMAS).

In the interest of the real environmental performance behind a system, it is of high priority to explore and analyse the environmental factors and impacts and to select the relevant environmental factors in the course of the implementation of the EMS.

The research has been conducted by using questionnaires within home companies applying EMS according to the standard ISO 14001 (114 companies). The objective of our survey was to perform an evaluation of the state of affairs after 14 years of the first EMS certification in the form of descriptive statistics. On the basis of the survey results we analysed the standard and motivations of the companies' general environmental management, the characteristics of the methodologies applied in environmental impact analysis as well as the frequency of their application, questions relating EMS application and environmental protection goals, and the efficiency of their realisation, the role of EMS in influencing the state of the elements of environment, main companies' efforts according to operating of EMS.

Parameters which are influencing corporate environmental performance demonstrably: 4 corporate performance indexes (environmental motivation, performance, impact assessment, management) have been created on the grounds of the main topics of survey. Characterization of respondents' contracted performance has been also executed by forming a fifth aggregate index (average values). In case of formed indexes performance of organizations has been examined by histogram analysis depending on main parameters (14 pcs) (answers: „A” – unfavourable and „B” – favourable group). In the course of implementation and operation of EMS the fields of corporate development can come estimated for the sake of improvement of environmental performance on the grounds of detected effects of variates and the arrangements made for their improvement. Collective or separate development of background variates which build the indexes gives opportunity conversely for identifying the main improvable factors.

The database of questionnaire survey was subjected to principal component analysis in order to form factors. The result of factor analysis indicates that the environmental performance of Hungarian industrial companies performing in the survey and the effectiveness of EMS-es can be explained and separated characteristically along six dimensions.