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RESEARCHES ON ENVIRONMENT MANAGEMENT – PRINCIPLE OF SUSTAINABLE DEVELOPMENT

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Abstract: *This paper presents the new approach to environmental management and its attempt to place it in the perspective of sustainable development. Also, there are described some aspects regarding the principle of sustainable development and an example concerning identification process of environment factors, respectively the assessment and improvement process of environment management system.*

Keywords: *environmental management, sustainable development, environmental aspects assessment.*

1. INTRODUCTION

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts [1]:

- the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and
- the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs."

Sustainable development is maintaining a delicate balance between the human need to improve lifestyles and feeling of well-being on one hand, and preserving natural resources and ecosystems, on which future generations and we depend (figure 1).

Sustainable development implies economic growth together with the protection of environmental quality, each reinforcing the

other. The essence of this form of development is a stable relationship between human activities and the natural world, which does not diminish the prospects for future generations to enjoy a quality of life at least as good as our own.

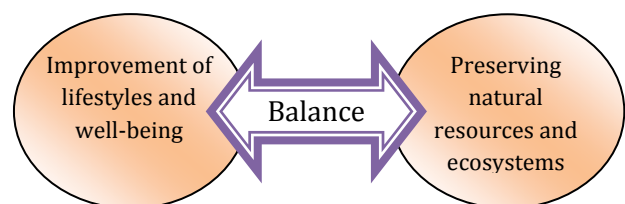


Figure 1. Sustainable development

The goal of sustainable design is to find those constructive solutions, which will ensure on the one hand the welfare and on the other hand the coexistence of the three groups that make up the global ecosystem (inorganic elements, living organisms and people). Achieving sustainable design goal is through education in a conceptual framework that has three levels: principles, strategies and methods. Each of these principles includes a

unique set of strategies, whose study leads to a better understanding of the interaction with the environment [2].

In this manner, implementing an environmental management system will allow managing more efficient of all resources.

2. SUSTAINABLE DEVELOPMENT - CONCEPTS

To implement the reality of this general concept that is sustainable development requires scientific substantiation of the relationship between man and nature and process of human intervention, justification for allowing development of predictive models capable of monitoring and intervention methodologies real time.

The point of concentration and size depend on the local sustainability efforts, including

resources, political action and individual outstanding features of the community.

Sustainable development can be regarded as a society and economy adapt to the great problems facing humanity today: climate change, water shortage, drought, desertification, depletion of resources, waste, biodiversity loss, population growth, poverty, migration etc. For prevention, combating and elimination of their repercussions, to ensure economic development, social progress and human development are necessary to initiate and support concrete actions, specific and measurable objectives summarized, subject to national strategies for sustainable development.

The concept of Sustainable Development consists of four stages in correlation, but separate:

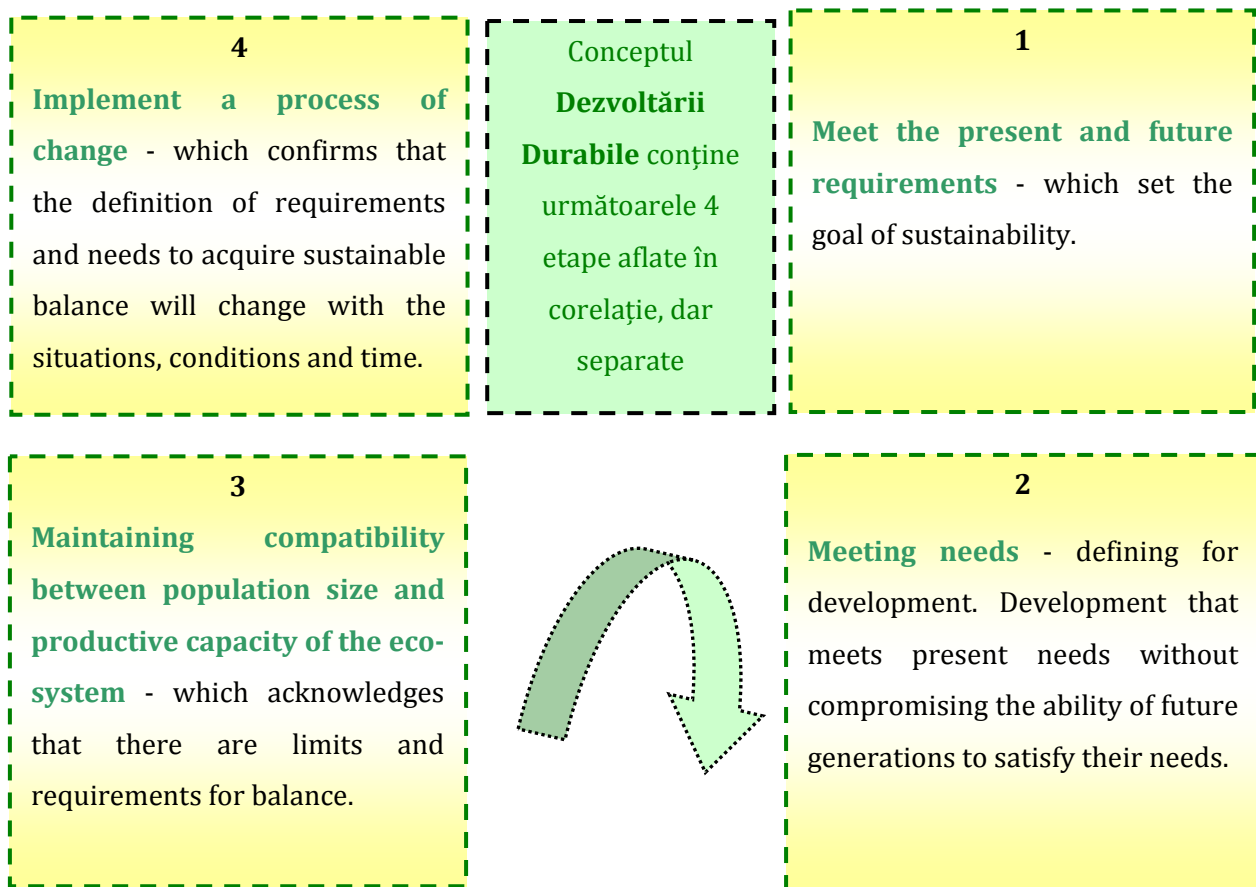


Figure 2. Sustainable development stages

3. ENVIRONMENT MANAGEMENT SYSTEM



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ISO 14001:2004 is designed to address the delicate balance between maintaining profitability and reducing environmental impact; with the commitment of the entire organization, it can enable to achieve both objectives.

performance by considering environmental considerations when making decisions and managing risks.

The first step to putting together an EMS is to make a commitment and develop an environmental policy; the second is to set goals, objectives, and targets for the environmental management program [6].



Figure 3. Environment management system

4. ENVIRONMENTAL ASPECTS ASSESSMENT

The assessment process consist of periodic identification and evaluation of the environmental aspects and related significant impacts of the activities, products and services associated with the major facility operations.

The following diagram illustrates the recommended order of steps for this process [7]:

An Environmental Management System (EMS) is a framework developed by an organization to help improve its environmental

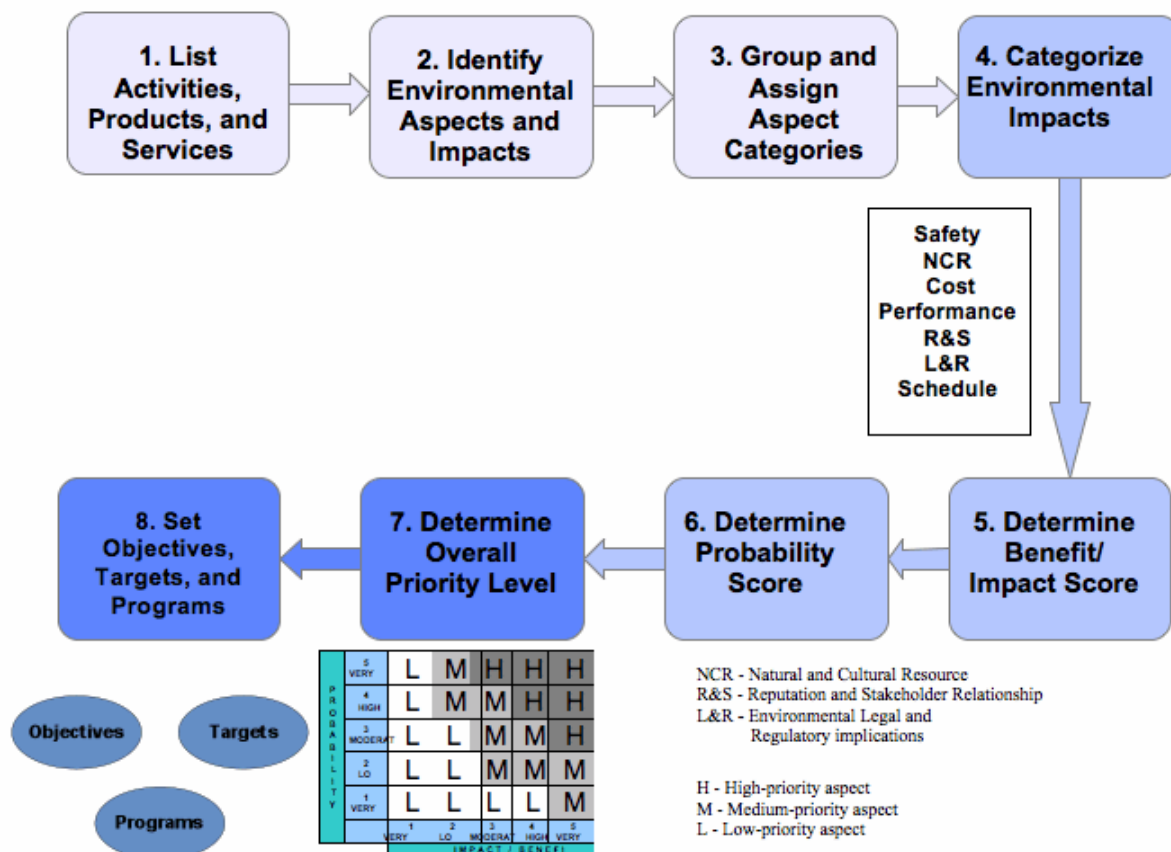


Figure 4. The assessment process of environmental aspects

5. CONCLUSIONS

The concept of sustainable development it helps us to understand our world and ourselves. The problems we face are complex and serious and we cannot address them in the same way we created them. Nevertheless, we can address them.

The concept of sustainable development covers all forms and methods of socio-economic development, whose background is primarily a balance between these elements of socio-economic and natural capital.

In figure 5 are present in all main indicators characterizing the results obtained from a process of sustainable development approach.

An integrated model of economic development process of the system reflects all aspects of its operation. Evaluation of sustainable development through the system is entirely sustainable development coefficient, which is calculated on the coefficients of economic stability, social and environmental. Development version is fully achieved, the

maximum coefficient of stability is the most stable (at a value of coefficients of economic stability, social and ecological higher than 1). Thus, the stability criterion can be formulated as maximizing the full factor of stability.

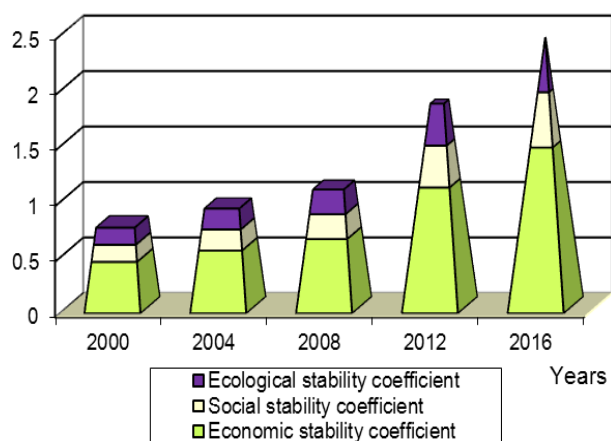


Figure 5. Evaluation model of sustainable development

The benefits of implementation of an environment management system are:



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Improving environmental performance achieved by top management commitment

- Reducing costs through energy and water use efficiency and reducing the amount of waste generated;
- Reducing the risk of accidental pollution and other emissions into the environment and hence reduce the cost of cleaning the environment or environmental fines authorized bodies;
- Compliance with the law by identifying legislative changes over time and needed addressing;
- Improving the image of the organization by controlling the environmental impact;
- Improving the business focus on environmental issues.

Dominance of economic priorities against the changes occurring in the environment has brought humanity face a real threat of ecological crisis and the need to review the guidelines state. Therefore, sustainable development strategy is particularly important at this time.

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