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IMPLEMENTING ENVIRONMENTAL MANAGEMENT TOOLS IN LOCAL AUTHORITIES

Abstract: Local authorities are key players in the local economy; they have an important influence on the environmental habits of the general public and can make a major contribution to the implementation of the principles of sustainable development at local level.

Local authorities have a considerable number of different duties: Schools, waste disposal, road maintenance, law enforcement, fire brigade, procurement, leisure and many more. The assessment of indirect aspects such as procurement, transport, planning and design of services is complex matter. Environmental management tools can help local authorities in achieving sustainable development by providing a structured framework for managing and improving the local authorities own environmental performance, and making influence on general public.

This paper presents environmental management tools that can be implemented in local authorities and help them to evaluate and improve environmental aspects in structured manner. The environmental management tools that can be implemented in local authorities are EMS ISO 14001, EMAS, green procurement etc.

Keywords: EMS, environmental management

1. INTRODUCTION

The traditional management focus of local authorities have been extended with areas, such as quality of life, the environment, occupational health and safety as well as other areas. Recently, local authorities have begun to show interest in environmental management tools, mainly EMS-Environmental management system. EMS applied to local authorities provides a systematic approach to develop policies; practices and procedures of environmental management that are able to respond to the social,

economic and environmental challenges that local authority are faced with. Local governments behave similar to business sector, but with a special character. Local governments are consumers and producers of goods and services (electricity, food, water, infrastructures, etc.) and their activities and policy choices have a significant impact on the local economy, the environment and human health and people's quality of life.

EMS can help local authority to reduce environmental impacts, to reduce cost, decrease material and energy losses and prove that it is managing its

environmental risks. Examples of good environmental practices in local authorities are use of recycling paper, low energy light bulb, education for environmental awareness, installation of low-flush toilets, composting, waste separation and recycling, waste water management, renewable energy sources...

Reasons for growing number of local authorities that are recognising the benefits of implementing an environmental management tools are:

a. Local authorities are facing increasing pressure and demands for better environmental quality from their citizens.

b. Local authorities are directly or indirectly in charge of the implementation of national and international agreements and laws on sustainable development.

c. Environmental challenges with sustainable development strategy for local authority are becoming more and more complex.

d. Urban growth has created an increasing demand for houses, roads, offices, shops and other services, leading to various environmental impact and aspects.

e. Environmental management can have major benefits at a strategic level to develop an overall framework for delivering public services and programmes including initiatives on waste, water, energy, transport, and planning.

2. ENVIRONMENTAL MANAGEMENT TOOLS

Legislation by itself is not sufficient for achieving sustainable development. European Union encourages application of various tools for the realization of sustainable strategy. One of the most used environmental management tools is environmental management system-EMS. Beside EMS there is a number of other management tools that can help to manage environmental aspects. Some of the

environmental management tools that can also be implemented in local community are green public procurement-GPP, energy efficiency initiatives, and others.

2.1 EMS

Beside ISO 14001 standard for EMS, ISO 14000 family includes supporting tools for environmental management and designing environmentally friendly products and services.

An EMS is a problem identification and problem-solving tools that can be implemented in an organization in many different ways, depending on the organization's activities and needs. EMS model follow Deming's Quality Management "plan, do, check, and act" model. Personnel evaluate the processes and procedures they use to manage environmental issues and incorporate operational controls and environmental responsibilities into existing work instructions. Managing environmental issues include setting of objectives, targets and environmental programme. EMS also includes monitoring and measuring environmental performance progress. Environmental management becomes part of the daily responsibility for employees across the entire organization, not just in the environmental department. EMS provides a number of tools to manage environmental risk effectively and offer great potential for continuous improvement. It is recommended to use fromal EMS, externally certified to a national or international standard. There are three recognized EMS standards/regulations:

- a. ISO 14001-international standard for environmental management systems
- b. EMAS-the Eco Management and Audit Scheme (EMAS), a voluntary EU wide scheme, which requires organisations to produce a public statement,

focuses on legislative compliance and includes ISO 14001.

- c. BS 8555-a British Standard, BS 8555 allows phased implementation of an EMS leading to full certification to ISO 14001 or registration for EMAS.

An EMS can support Local Government climate change measures by facilitating increased energy efficiency, reductions in greenhouse emissions and minimising waste.

2.2 Green public procurement

Green Public Procurement (GPP) is defined as “Public procurement for a better environment” as “a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured.”

GPP is a voluntary instrument, which means that public authorities can determine the extent to which they implement it.

Public authorities are major consumers in Europe: they spend approximately 2 trillion euros annually, equivalent to some 19% of the EU’s gross domestic product. By using their purchasing power to choose goods and services with lower impacts on the environment, they can make an important contribution to sustainable consumption and production.

Green purchasing is also about influencing the market. By promoting and using GPP, public authorities can provide industry with real incentives for developing green technologies and products. In some sectors, public purchasers command a large share of the market (e.g. public transport and construction, health services and

education) and so their decisions have considerable impact.

2.3 Energy efficiency

Efficient energy use, sometimes simply called energy efficiency, is the goal of efforts to reduce the amount of energy required to provide products and services.

The International Standard ISO 50001 on energy management systems provide public and private sector organizations with management strategies to increase energy efficiency, reduce costs and improve energy performance.

The new International Standard ISO 23045:2008 helps the building sector to contribute to energy saving by providing it with specific design guidelines. The building sector is recognized as a major contributor to the build-up of greenhouse gases. These emissions of CO₂ to the atmosphere could be reduced significantly through the application of International Standards relating to the energy-efficient design of buildings and building mechanical equipment.

3. METHODOLOGY FOR IMPLEMENTATION OF EMS IN LOCAL AUTHORITIES

Program structure for EMS requirements includes several key program elements:

- a. Creating a team from local community. Except people from local authority it is advisable to include participants from schools, water and waste water treatment organization, NG organisations that are registered in that community...
- b. Intensive “train-the trainer” workshops involving participants at the beginning of each implementation phase, providing participants with sufficient

knowledge, understanding, and materials to build expertise, understanding and experience and lead their individual implementation teams in completing the EMS requirements for each phase.

- c. EMS training materials, models and templates for each workshop. Leading experts in the field assisted with instruction and discussion as did other local government entities engaged in EMS activities.
- d. Frequent, regular, and consistent communication among project participants. Between workshops, Website, written and electronic toolkits, can maintain technical assistance and coaching.
- e. Team building activities to develop synergy among the participants should be built into every workshop. Synergy of the group can help to move more steadily toward achieving objectives.
- f. Information and data tracking protocols should be developed so that organizations could collect and share common sets of data related to the establishment and implementation of their EMS.
- g. Each phase of implementation have span a defined time period; however, it is accepted that participants would move through the milestones in each phase, depending on the barriers each encountered.

An implementation strategy divided EMS requirements into four sequenced phases:

- a. Phase I: Developing Project Infrastructure
- b. Phase II: Significant Aspects and Objectives and Targets
- c. Phase III: Environmental Management Programs

- d. Phase IV: Monitoring and Measuring and Management Review

3.1 Developing project infrastructure

Tasks in Phase I Developing Project Infrastructure include:

- a. Selecting a project scope.
- b. Establishing an EMS program infrastructure: allocate resources, appoint a representative (project manager) and select an Implementation Team to lead the EMS project.
- c. Evaluating compliance with local, state, and federal environmental laws and regulations.
- d. Conducting a gap analysis to determine what EMS processes and procedures are already in place and what needed to be done.
- e. Defining the implementation team's roles, responsibilities and authorities.
- f. Confirming top authorities in understanding and commitment.
- g. Drafting and communicating an environmental policy.
- h. Determining a procedure for understanding and communicating legal and other requirements.
- i. Training employees and citizens across the organization with the EMS concept.

3.2 Significant Aspects and Objectives and Targets

Tasks in Phase II Significant Aspects and Objectives and Targets include:

- a. Conducting a register of environmental aspects (both regulated and non-regulated) of operations, activities, and services.
- b. Developing criteria for

determining the significance of environmental aspects and identifying them based on these criteria.

- c. Setting realistic objectives and targets in conjunction with significant aspects and environmental policy commitments.

The tasks in Phase II require a thorough and in-depth analysis of the environmental impact of operations, the establishment of environmental objectives and targets, and meaningful participants input and involvement in every part of community.

3.3 Environmental Management Programs

Task in Phase III Environmental Management Programs include developing environmental management programs (EMP) to accomplish each objective and target they had set.

3.4 Monitoring and Measuring and Management Review

Tasks in Phase IV Monitoring and Measuring and Management Review include:

- a. Monitoring and measuring key characteristics of the management system.
- b. Conducting EMS audits.
- c. Developing and implementing procedures for handling EMS nonconformance.
- d. Determining the organization's compliance status.
- e. Initiating a Management Review cycle.

Measuring, monitoring and evaluating

are the activities that ensure the organization is performing in accordance with its environmental management programs.

5. CONCLUSION

Local authorities are organizations that both regulate and are regulated. These circumstances require management to understand a broad scope of environmental impacts and comply with a long list of regulations. Management must constantly balance services provided with reduced budgets while maintaining compliance. EMS helps an organization address its regulatory requirements in a systematic and cost-effective manner. Proactive approach can help reduce the risk of noncompliance and improve health and safety. In addition, the EMS can promote stronger operational control and employee motivation.

This study showed that the main reason for implementing EMSs is of organisational origin (such as bringing order to the environmental efforts), although EMS implementation is often viewed as an environmental project. The difficulty during implementation of EMS in local community can be the fact that EMSs are viewed as projects and not as continuous processes that are integrated into the organisation.

The number of local authorities who have obtained ISO certification or implemented EMSs is still very small compared to the private sector, but, the advantages of EMS as a systematic tool to achieve urban sustainability, directly and indirectly is being recognised.

REFERENCES:

- [1] Majerník, M., Badida, M., Mesároš, M., " Environmentálne manažérstvo- projektovanie systému", Košice, 1999.
- [2] Hodolič, J., Badida, M., Majerník, M., Šebo, D., Mašinstvo u inžinjerstvu zašтите životne sredine, Novi Sad, 2003
- [3] Majerník, M., Environmentálne manažérstvo ako nástroj trvaloudržateľného rozvoja a bezpečnosti regiónov. In: Riešenie krízových situácií a občianska bezpečnosť v špecifickom prostredí : Zborník referátov a diskusných príspevkov z vedeckej konferencie s medzinárodnou účasťou... 13.-14.10.2005 v Hriňovej. Nitra: Agentúra Slovenskej akadémie pôdohospodárskych vied, 2005. s. 92-94. ISBN 80-89162-16-9.
- [4] Majerník, M., Chovancová, J., Environmentálne manažérstvo - vývoj a rozvojové trendy. In: 4. Medzinárodná konferencia EIaM 2007: Environmentálne inžinierstvo a manažérstvo: Zborník z konferencie : Herľany, 22.-24.10.2007. Košice: TU, 2007. s. 22-29. ISBN 978-80-8073-894-5.
- [5] Faith, L., and others, The US EPA Environmental Management System Pilot Program for Local Government Entities, Anandale, 2000.
- [6] <http://www.unep.or.jp/>