

# CONDITIONS OF IMPLEMENTATION AN ENVIRONMENTAL MANAGEMENT SYSTEM (EMS) ACCORDING TO ISO 14001 IN POLISH LOCAL AUTHORITIES

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## Abstract

In many countries ISO 14001 is the method of certification of communal activity in environmental range. In Polish law there is no duty to implement EMS into commune. In spite of that, many national and regional documents suggest that the system of managing the environment is the most effective method to protect the natural sources in local area. Furthermore, part of procedures in communes is compatible with requirements of EMS. Because of that, main question is: why there are no even examples of implementation of ISO 14001 to the rules of management in Polish local authorities. To answer that, identified a list of potential incentives and inhibitors of implementing ISO standard. Research has done in about 65% of communes of Warmia and Mazury District in northeastern part of Poland. Effect of this research is the rank of determinants, which can help or interfere in the process. The rank shows specific SWOT analyze of in- and external conditions of implementing ISO 14001 in these communes. Then the determinants have set against the concrete tasks to strengthen incentives and weaken inhibitors.

## Introduction

Environmental Management System (EMS) was created for the industry. Benefits from implementing EMS were significant. Potential benefits from implementation EMS can have similar effects on other kinds of organizations. In many countries (e.g. USA, Japan) local authorities implement EMS as a best way to sustainable development in local meaning. There are two main system of certification EMS in the world – EMAS (for the European Union countries) and ISO 14001 (for all over the world). Universal benefits from implementing Environmental Management System related with communes could be:

1. Improvement of environmental activity of local authority as a result of communication with local groups of interests and looking for comprehensive solutions.
2. Economical savings mainly in the range of waste management and decrease ecological payments and penalties.
3. Better control over the system of management.
4. Better control over local funds for protection of environment.
5. Strict relation between aims and implemented tasks. Constant control of environmental effects.
6. Compatibility with legal requirements.
7. Better motivation for local authority staff in the office and related companies.

In Poland no commune certified Environmental Management System by ISO 14001 or EMAS requirements. Reasons of that situation ought to be examined. Identification of determinants of implementation of EMS should be the first stage of popularizing this process in Poland. Additionally results in this range could be useful as well for local authorities as legislature to support communes in that.

## Methods

On the basis of literature and consultations with experts was set a list of 55 factors with potential influence on EMS in local authorities. There are both inhibitors and inviting factors. Main groups of determinants are: Legal and political; Social and cultural; Environmental; Organizational

Research objects were 113 communes in Warmia and Mazury Region in northeastern Poland. There are rural, and small-town communes. Results based on answers of 92 communes from whole 113 local authorities in region.

Instruments of research were postal questionnaires for the environmental department of local authority. Main questionnaire was preceded by test in few communes. Results were completed by method of experts.

Respondent should to categorize every factor with a note between +5 (strong positive influence) and -5 (most important inhibitor).

## Results

Questionnaires were for environmental department in local authority. Many environmental decisions depend on them. Answers from communes allowed to built table 1 and table 2. Table 1 contains group internal factors. There are together important inhibitors (with value below zero) and stimulators.

Table 1. Internal determinants of implementation EMS

Determinant	Average value
Local law requirements	3,53
United Europe standards	2,23
Improvement of natural resources managing	3,80
Strategy of development of commune	3,61
State and quality of documents in local authority	2,84
Economic conditions in commune	-4,16
State of authority budget	2,96
Other then environmental protection needs in authority	-2,87
Improvement of organization environmental activity in commune	2,91
Ecological awareness in local authority staff	2,97
Ecological awareness in commune management	-1,45
Needs of inhabitants	2,19
Needs of Non Government Organizations in commune	1,39
Improvement of communication between authority and inhabitants.	1,58
Improvement of nature protection in local authority	3,29
Relation between commune and national environmental and control service	2,90
State of natural resources in commune	1,93
State of local monitoring	-1,53
State of environmental infrastructure	3,03

Non-significant influences have factors between 1 and -1 value. Other determinants are more or less important for the process. The most important inhibitor is economic situation in commune and the best stimulator is possibility of improvement of natural resources management.

Similar table was lined up with external factors. There are next 19 determinants of implementing EMS in communes.

Table 2. External determinants of implementation EMS

Determinant	Average value
National law requirements	3,97
Regional law.	2,61
State of enforcement of legal requirements	-2,50
Stability of legal requirements.	-2,77
Range of prediction future law acts	1,01
Legal order of United Europe	2,28
National environmental policy	2,84
Regional development strategy	2,99
Economic growth	-4,10
International environmental founds	-1,42
National environmental founds	2,39
Payment for use of environmental resources	0,26
Environmental financial penalty.	2,03
Promotion of Environmental Management System.	0,38
Cooperation between communes.	2,30
Ecological competitions for communes.	2,43
New environmental technologies	4,30
Place of environmental subjects in media.	3,39

Important group of determinants is law requirements. There are as well regional, national as international standards. The most effective stimulator is development of environmental technologies. Every organization ought to find the most effective technologies for local conditions. EMS could aid in that. Main inhibitor from outside communes is national economical growth.

### Discussion

During research identified main stimulators and inhibitors of implementing Environmental Management System in communes of Warmia and Mazury region in Poland. Selected, by local authorities, group of determinants is the potential reason of no implementation certified EMS.

There are no legal barriers of implementing EMS in Polish communes. The lists of internal and external determinants of the process are the answer why there are no implementations so far. To induce of implementing EMS it's necessary to increase positive influence of stimulators by concrete activities. This support ought to proceed not only in commune (local stage) but also in the national stage. Man ought to as well reduce influence of inhibitors.

There is possible to assign every factor to group of concrete activities to minimized influence of inhibitors and increase stimulators of the process of EMS implementation (Table 3). Because of rules of Environmental Management Systems it is important to plan concrete activities to every aim (group of factors) but also to attribute responsibility for every activity. It permits later to check effects after implementation and improve the system. Thanks to that Environmental Management from the very first stage would be compatible with the base of every management systems – Deming's Cycle (Plan – Do – Check – Act).

Table 3. Example activities stimulating of implementation of Environmental Management System

Group	Factor	Potential activity	Executor
Environmental technologies	Access to new technologies which prevent environment	Modern technology transfer, Creation of centers of selection and assessment of accessible technologies. Adaptation of accessible technologies to individual needs of local authorities	Center of Promotion and Assessment of Environmental technologies,  Regional research centers
Environmental legal order	so-called general	Location of Environmental Management System in Polish legal system. Preparation to implementation of decree about EMS in Poland because it is in UE legal order.	Government,  Advisory boards of Ministry of Environment
	National law acts in every aspect of environment	Turning attention on aspect of pollutions prevention and planning in protection of environment.	Ministry of Environment,  Research centers
Media	Popularity of environment and ecology subjects	Cooperation with representatives of the local media. Cooperation with media in delivery of information about environment and activities of local authority in this range.	Local authority,  The local media.
Economic factors	Environmental financial penalties		
	Preference credits form national environmental funds	Creation of financing paths of activities on EMS in local authorities	National environmental funds
	International support	Training of personnel of local authorities under angle of obtaining financial support from UE and other foreign funds	Regional authority  Advisory centers,  Academic centers
	Environmental payments		
Public opinion	Pressure of public opinion	Creation of forum for communication among local authority and groups of inhabitants.  Educational activities addressed to inhabitants of communes.	Local authority,  Non government organizations
Natural resources	Preservation of natural resources in the area of commune	Cataloguing of nature resources in commune and monitoring of environmental processes	Local authority

Trainings	Trainings in the range of ISO 14001 and EMS	Organizing of workshops and courses in range of EMS addressed to all groups of interests in commune. Arrangement of training agenda in office of commune with taking EMS into consideration	Academic centers,  Regional administration,  Local authority
Economic in local authority	Poor economic situation of local authority	Designating a person(s) in every local authority to look for financial support from additional sources of financing of commune investments Assignment budget as a form for right planning of expenses.	Local authority

## Conclusions

1. There are internal and external determinants of EMS implementation in communes
2. The most important internal support of EMS in local authorities are:
  - Natural resources in the area of local authorities in Region,
  - Pressure of inhabitants,
  - Internal need of improvement methods of managing the environment in commune,
  - Aims of local strategy.
3. The most important external support of EMS in local authorities are:
  - National legal requirements,
  - Popularity of environment and ecology subjects,
  - Financial instruments which supported environmental activity. Especially from national ecological funds and government institutions.
4. The most important internal inhibitors of EMS in local authorities are:
  - Weak economic condition of local authorities,
  - Lack of environmental monitoring,
  - Insufficient know-how about Environmental Management System in local authorities.
5. The most important external support of EMS in local authorities are:
  - Too slow economic growth of the country,
  - Lack of adequate trainings and low knowledge about EMS,
  - Weak preparation for receiving international subventions for protection of local environment.
6. It is possible to anticipate group of activity for every determinant of the process.