National Agency for Enterprise and Housing

Evaluation of Programme for Environmental Management in Eastern Europe

June 2003

Abbreviations

DATI	Danish Agency for Trade and Industry
EMAS	Environmental Management and Audit Scheme
EMS	Environmental Management Systems
LFA	Logical Framework Analysis
NAEH	National Agency for Enterprise and Housing
SME	Small and Medium-Sized Enterprises
TOR	Terms of Reference

Content

Summary

In 1998, the Danish National Agency for Enterprise and Housing (former: Danish Agency for Trade and Industry) initiated a programme for introduction of Environmental Management Systems in different sectors in Eastern Europe. In all, 27 have been implemented in Estonia, Latvia, Lithuania, Poland and St. Petersburg.

The programme objectives were:
- That international competitiveness of selected industrial sectors in the target countries has been improved through implementation of environmental management systems; and
- To prevent and alleviate the environmental load caused by industrial activities.

The major results of the demonstration projects were planned to be:
- Implementation of EMS;
- Capacity building through practical work and training of enterprise staff, consultants, and relevant sector organisations;
- Increased interest in the involved firms for using cleaner technology;
- Greater knowledge of and interest for Danish technological solutions to environmental problems.

The general success criteria for each of the projects were defined as:
- implementation of certified EMS in at least one enterprise (in some projects this was softened to “certified if possible”);
- all participating enterprises should be satisfied with the course of the project.

The programme evaluation embraces only the projects that were completed by November 2002. Fact finding has taken place during visits to all participating countries, a questionnaire investigation and telephone interviews with a series of stakeholders, including Danish project organisers.

Conclusions

The programme preparation process involved representatives from all participating countries and sectors. The programme concept fulfils expressed needs of the recipient countries.

The implementation of the projects has in general been successful given the TOR and success criteria stated. Most participating enterprises have improved their environmental performance and their knowledge of (Danish) technical solutions. Local consultants have achieved considerable capacity building within EMS.

Experience and tools have not been sufficiently disseminated in the respective sectors allowing the EMS approach to be rooted in the business community. The co-operation with environmental authorities has been scattered, and industrial associations have in general only been involved on a broad informative basis. The sustainability of the projects is thus not optimal, as the anchoring of the EMS approach in existing institutions and organisations in general is weak.

Whereas the individual project results are satisfying, the evaluating team finds that the probable overall outcome of the programme concerning "increased competitiveness of the industrial sectors in the country" could have been strengthened with a more clear approach adapted to the individual sector. This would presumably have founded a basis for better anchoring and spreading of experience and knowledge to the bulk of small and medium-sized enterprises in many sectors.

Co-ordination and experience sharing etc. between projects within each country or similar sector projects in different countries have not been sufficient to avoid duplication of tools and errors, hereby decreasing the efficiency of project implementation.

Recommendations

The NAEH should implement a project development tool as, e.g., the Logical Framework Analysis (or Approach), LFA. The LFA supports elaboration of objective oriented and transparent programmes and projects.

With a huge effort like the EMS programme the NAEH should devote more time for country specific and sector specific project preparation. During this, it should be assessed to which degree local conditions and needs call for adaptations of a general project model.

To improve the anchoring of projects in recipient countries, the needs and capacities of the involved organisations should be assessed from the outset through a stakeholder analysis.

Close co-operation with industrial organisations will increase the probability of spreading of the message to SMEs. To further increase the adoption of the concept in SMEs, sector specific tools for different levels of ambition could be elaborated with inspiration from the numerous Danish tools. NAEH could identify drivers for the different sectors' use and implementation of environmental management at different levels; the drivers and used as a central element in dissemination.

The National Agency for Enterprise and Housing should attend to collection and dissemination of experience across projects and national borders in order to increase co-operation and effectiveness.

Dansk Resumé

Den danske Erhvervs- og Boligstyrelse (tidl. Erhvervsfremme Styrelsen) iværksatte i 1998 et program for introduktion af Miljøledelsessystemer (EMS) i forskellige sektorer i Østeuropa. I alt er 27 projekter blevet implementeret i Estland, Letland, Litauen, Polen og Skt. Petersborg.

Programmets mål var:
- At den internationale konkurrenceevne i udvalgte sektorer i de udvalgte lande er forbedret ved implementering af miljøledelsessystemer; og
- At forebygge og afhjælpe miljøpåvirkningen fra industriel aktivitet.

De væsentligste resultater ved demonstrationsprojekterne skulle være:
- Implementering af miljøledelse;
- Kapacitetsopbygning gennem praktisk arbejde og uddannelse af virksomhedsansatte, konsulenter og relevante sektor-organisationer;
- Øget interesse hos de involverede firmaer for anvendelse af renere teknologi;
- Større viden om og interesse for danske tekniske løsninger på miljøproblemer

Generelle succes-kriterier for hvert projekt var defineret som:
- Implementering af certificeret miljøledelse i mindst én virksomhed (i nogle projekter var det formuleret som "certificeret hvis muligt"
- Alle deltagende virksomheder bør være tilfredse med projektets forløb

Programmet er blevet evalueret ved en nærmere analyse af de ti projekter, som var afsluttet i november 2002. Undersøgelser er gennemført ved besøg til alle deltagende lande, spørgeskemaundersøgelse samt telefoninterview med en række interessenter, herunder danske projektansvarlige.

Konklusioner

Forberedelsen af programmet har været karakteriseret ved en proces, der har involveret repræsentanter fra alle de deltagende lande og sektorer. Programmets koncept tilgodeser modtagerlandenes formulerede behov.

Implementeringen af projekterne har generelt være succesfuld givet deres kommissorium og de formulerede succeskriterier. De fleste virksomheder har forbedret deres miljøpræstation og kendskab til (danske) tekniske løsninger. Lokale konsulenter har opnået betydelig kapacitetsopbygning indenfor miljøledelse.

Erfaringer og redskaber er ikke blevet spredt og rodfæstet tilstrækkeligt i de respektive sektorer. Samarbejdet med miljømyndighederne har været spredt , og brancheorganisationer har generelt kun været involveret på et bredt, informativt niveau. Projekternes bæredygtighed er således ikke optimal eftersom

forankringen af miljøledelsestilgangen i de eksisterende institutioner og organisationer generelt er svag.

Hvor resultaterne af de enkelte projekter er tilfredsstillende finder evalueringsteamet således, at programmets udbytte i forhold til "forbedret konkurrenceevne af landenes industrielle sektorer" kunne have været styrket med en tilgang, der var tilpasset den enkelte sektor. Dette ville formentlig have givet grundlag for bedre forankring og spredning af erfaringer og viden til det store antal små og mellemstore virksomheder i mange sektorer.

Koordinering og erfaringsudveksling mellem projekterne i hvert land eller på tværs af landene har ikke været tilstrækkelig til at opnå synergieffekter af projekterne, herunder duplikere værktøjer og problemer. Dette har formindsket effektiviteten af projekternes implementering.

Anbefalinger

Erhvervs- og Boligstyrelsen burde implementere et redskab til projektudvikling som fx Logical Framework Analysis (eller Approach), LFA. LFA støtter udarbejdelsen af målrettede og gennemsigtige programmer og projekter.

Med en så stor indsats som miljøledelsesprogrammet burde Erhvervs- og Boligstyrelsen afsætte mere tid til landespecifik og sektorspecifik projektforberedelse. Gennem dette ville det blive vurderet i hvilket omfang lokale betingelser og behov kræver tilpasning af den generelle projektmodel. En vurdering af de involverede organisationers behov og kapaciteter bør indledende gennemføres ved en aktøranalyse i hvert land. Drivkræfter for anvendelse og implementering af miljøledelse på forskellige niveauer skulle identificeres i de forskellige sektorer og bruges som et væsentligt element i spredningen.

Tæt samarbejde med industriens organisationer ville øge sandsynligheden for spredningen af budskabet til de mange små og mellemstore virksomheder. En vej til at udbrede kendskabet til miljøledelseskonceptet i de små og mellemstore virksomheder ville at udarbejde sektorspecifikke redskaber for forskellige miljøledelses-ambitionsniveauer med inspiration fra de utallige danske redskaber.

Erhvervs- og Boligstyrelsens indsats vedrørende erfaringsopsamling og –spredning på tværs af projekterne og landene burde styrkes for at forbedre samarbejdet og effektiviteten.

1. Introduction

The Danish Agency for Enterprise and Housing, NAEH, (former: Danish Agency for Trade and Industry) under the Ministry of Economic and Business Affairs has asked PlanMiljø to carry out an evaluation of a part of the newly accomplished programme for environmental management in Eastern Europe. The ten projects covered by this evaluation were initiated from 1998 and completed in November 2002.

The evaluation has been carried out by Birgitte Ettrup, Claus Berner and Bjørn Bauer, PlanMiljø, in the period from December 2002 to March 2003.

1.1 Objective of the Evaluation

The objective of the evaluation is tripartite:

- to assess whether the accomplishment of the programme has been satisfactory in relation to programme goals and the needs of the recipient country. As part of this, programme preparation, project implementation and results are evaluated,
- to assess whether the Danish support to Eastern Europe has been utilised appropriately with regard to potential improvements of programme strategies, administration and modification of goals and objectives.
- To compile and recapitulate experience from the project implementation thus creating the basis for recommendations for subsequent programmes.

It was initially decided between the NAEH and PlanMiljø to attach importance to results and programme outcome and to use limited resources on the administrative aspects of the programme.

Since initiation of the ten projects covered by this evaluation, another 17 projects were started within the programme. The project Terms of Reference (TOR) have undergone some modifications since the start of the programme. It is important to emphasise that this evaluation is based on the original programme documents and project TOR. The revised project TOR are commented in section 5, Recommendations.

1.2 Evaluation method

The evaluation team has used the following approach in carrying out the evaluation:

Phase 1 – Description of the programme

- Compilation of material from NAEH
- Review of programme preparation
- Review of programme goals, strategy, results and success criteria.
- Review of participation of local stakeholders, including authorities and organisations

Phase 2 – Review of Programme Implementation
- Review of accomplished projects
- Assessment of the balance between training and competence development in the recipient countries in proportion to project budgets and participation of Danish and local resources
- Assessment of factors of importance for programme implementation and fulfilment of goals, including review of the co-operation between enterprises and authorities etc. in recipient countries
- Assessment of co-ordination between programme parties

Phase 3 – Assessment of Goal Fulfilment
- Assessment of accomplishment of selected projects
- Assessment of goals, goal fulfilment and sustainability of selected projects
- Assessment of projects' cost effectiveness and administrative arrangements

1.3 Data collection

The evaluation is based on existing written material and information from stakeholders interviewed in the evaluation process.

The evaluation team has compiled the following written material:
- documents providing information on the background of the programme
- description of the programme
- notes concerning establishment of co-operation in the recipient countries
- project descriptions and Terms of Reference
- project process notes and Progress Reports
- project evaluations
- additional written material identified during the evaluation process

Quantitative data from the projects has been collected through a questionnaire sent out to all enterprises that participated in the ten finalised projects. Local consultants translated the questionnaire to the different languages and handled the contact with the enterprises, including reminders for returning filled-in questionnaires. The returned questionnaires have been processed statistically in view of enlightening general characteristics of the projects.

Qualitative information from the accomplished projects has been collected through an extensive interview round involving enterprises, Danish and local consultants, organisations, country co-ordinators and authorities with a stake in the projects. The evaluation team has selected two projects in each country for interviews with a series of stakeholders – except from St. Petersburg, where only one project was finished and hence was included in the evaluation.

Collection of data from stakeholders has included issues such as:
- specific results and outcome of the projects, e.g.: Certification, reduced environmental impact, optimised organisation and manufacturing proc-

esses, increased market share, increased profit or competitiveness, dissemination to other industrial sectors.
- training of environmental co-ordinators and enterprise staff members
- knowledge of EMS-systems
- knowledge of cleaner production and mitigating measures
- competence to continue the EMS-work
- environmental demands from customers
- environmental demands to suppliers
- sustainability and anchoring of EMS in the enterprises
- organisation of the projects and co-operation with authorities and stakeholders
- utilisation and quality of Danish competencies

Interviews with organisations and authorities have especially focused on
- establishment of the programme, selection of industrial sectors and projects
- implementation and accomplishment of the individual projects
- project results
- intentional outcome of the projects and the programme and side-effects, including extent of information transfer, institutional building and industrial development
- cost-effectiveness of the projects, yield compared with costs and expectations
- co-operation between Danish and local authorities and consultants
- balance between Danish and local input

2. Programme for Environmental Management in Eastern Europe

The programme for Environmental Management in Eastern Europe was initiated in 1998 by the

NAEH (the former Danish Agency for Trade and Industry) 27 Environmental Management System-projects, EMS-projects, in 22 different sectors have been implemented in Estonia, Latvia, Lithuania, Poland and St. Petersburg (see the table beneath)

Estonia	Latvia	Lithuania	Poland	St. Petersburg	Kaliningrad
- ***Food process-ing***	- ***Pharmaceutical***	- ***Food processing***	- ***Food processing***	- ***Wood***	-
- ***Electronics***	- ***Food processing***	- ***Textile***	- ***Printing***	- Metals	
- Construction materials	- Metals	- ***Electronics/ metal***	- Wood	- Wood (2)	
- Wood	- Chemical industry	- Textile (2)	- Plastics	- Food processing	
- Chemical indus-try	- Metals (2)	- Wood	- Metals		
	- Wood				

Kaliningrad was included as target for the programme, but no projects were initiated in this region.

The ten projects marked with ***bold and italics*** were finalised at the start of this evaluation and are thus the only projects included in the evaluation.

2.1 Development of the Programme

The EMS-programme is part of the Eastern European Support Programme from NAEH to promote growth and partnership in the Baltic Sea Region. Three other programme have been running in the programme aiming at:

- Business Development
- Export Skills
- Business Education in Russia

The EMS programme was developed on the basis of a demand analysis in the Eastern European countries including an initial consultation of partners in the countries. The analysis pointed among other things at the need for increased attention to environmental and commercial aspects of certified Environmental Management Systems in the industrial sector.

Recognising this overall topic for the programme the Danish Agency for Trade and Industry carried out an intensive preparation phase with consultations with relevant ministries (typically Ministries of Environment and Ministries of Economic Affairs), Danish Embassies (Consulates) and industrial associations in the recipient countries. During the preparation process the countries had the

opportunity to relate the programme to their priorities in the national plan for Baltic Agenda 21 and other efforts connected to industrial development.

Furthermore, a close co-ordination with especially the Danish Environmental Protection Agency and other Danish actors (i.e. Confederation of Danish Industries) were pursued.

Selection of industrial sectors to the programme was carried out in close dialogue with the relevant national authorities who pointed out industrial sectors that:
- are important for the respective national economy;
- could benefit environmentally and economically from implementation of EMS-projects; and
- possessed competence to introduce environmental management.

After drafting the programme, the Agency presented the concept to the Danish Advisory Committee for Environmental Support to Eastern Europe ('Rådgivende Komité for Miljøstøtteordningen') and the Cross-Ministerial Commission for Support to Eastern Europe ('Det Tværministerielle Øststøtteudvalg'). Thus it was ensured that Danish criteria for funding were met, including requirements on priorities of recipient countries and use of Danish know-how and technology.

The programme preparation was finalised with a tendering procedure. The recipient countries were heard in the selection of project organisers for the individual projects.

2.2 Objectives and expected Results

An overall ***objective*** of the programme is "that international competitiveness of selected industrial sectors in the target countries has been improved through implementation of environmental management systems". The rationale behind this objective is the conception that the Western European market demands environmentally sound performance of both business-to-business suppliers and suppliers to the end-user. Thus implementation of EMS should increase the attractiveness of Eastern European enterprises as suppliers and partners to Western European industry.

Another ***objective*** of the programme was "to prevent and alleviate the environmental load caused by industrial activities". By introducing Environmental Management as an integrated aspect of industry management practices the programme has aimed at improving the environmental performance of the selected sectors.

The ***major results*** of the demonstration projects were planned to be:
- Implementation of EMS;
- Capacity building through practical work and training of enterprise staff, consultants, and relevant sector organisations;

- Increased interest in the involved firms for using cleaner technology;
- Greater knowledge of and interest for Danish technological solutions to environmental problems.

As experience from foregoing programmes had shown barriers for spreading of results from cleaner technology projects, information dissemination should be given special weight in this programme.

Assumptions

The programme documents state that "No obstacles are foreseen beside events beyond the control of the Agency and Eastern European counterparts, for example change of policy, change in the economic situation, changed priorities at government level".

Different documents from the programme initialisation phase further assumes that:

- economic and environmental results achieved by the demonstration projects will function as an inspiration and model for other firms within the selected industries.
- co-operation between industry and environmental authorities is strengthened during implementation of EMS;
- requirements in EMS concerning suppliers will guarantee dissemination of the message

Funding

The total grant of the EMS programme was 66.8 million DKK, of which the 10 projects covered by this evaluation were granted app. 20 million DKK. In all 27 projects were initiated within the programme accounting for 62.5 million DKK.

Project resources have been used primarily for consultancy fees and reimbursables. Local consultants have been intensively involved with up to 35% of the total fee budget. Financial resources have not been available for support to investments or certification.

Project concept

Every project has been built over the same concept:

a. Introduction to the project and EMS at a seminar with participants from as many enterprises as possible within the selected sectors. Besides, other stakeholders have been invited representing e.g. environmental authorities and sector associations.
b. The second part of the projects combined an environmental review of the enterprises with training in Environmental Management System and, i.e., legislative environmental requirements to the enterprises. This phase has been a combination of training/workshops for the enterprises and consultancy at the enterprises. In some projects, a study tour to Denmark was organised.

c. Next step in the projects was the implementation of Environmental Management Systems in selected demonstration enterprises.
d. One or two enterprises in each project were finally supported in pursing certification of the EMS.
e. At the end of the projects a final seminar was organised. The seminar was a central element in spreading knowledge about new tools, capacity and experience in implementing EMS. Enterprises outside the projects and other stakeholders such as sector associations and representatives from ministries were invited.
f. Each of the projects was finalised by the respective consultant preparing a project evaluation focusing on the fulfilment of project success criteria.

The general success criteria for each of the projects were defined as:

- implementation of certified EMS in at least one enterprise (in some projects this was softened to "certified if possible");
- all participating enterprises should be satisfied with the course of the project.

3. Findings

The evaluation team has carried out a comprehensive fact finding with a close review of numerous documents, an extensive questionnaire investigation and about 50 interviews. The findings from the fact finding are divided according to Programme Elements:

- programme planning and development
- project implementation and results
- programme objectives and goals
- administrative aspects

3.1 Findings - Programme and Project Development

Findings concerning development of programme and projects relate to involvement of stakeholders, development of the programme concept, and formulation of project documents. These findings are based on the review of documents and interviews with stakeholders.

3.1.1 Involvement of local stakeholders

- Involvement of local stakeholders in preparation of the programme, selection of sectors and prioritisation in each country has been thorough.

  The relevant public institutions – especially Ministries of Economy and the Environment (for Russia represented by Local and Regional administration) - and also relevant organisations and associations have been heard in developing the programme.

- The relevant authorities were furthermore involved in evaluating tenders and in appointing Danish consultants.

3.1.2 The programme and project concept

- The programme has applied similar project concepts in all countries and industrial sectors. This has been advantageous for the planning phase, as it has kept utilisation of planning resources at a minimum.
- The programme approach – demonstration projects and subsequent information to stakeholders – is identical with the approach used in several Danish support programmes at the time. In general, the evaluation team finds use of the sector approach justified as this model implies possibility for efficient dealing with sector specific management and technology options.
- However, the evaluation team finds that a more thorough initial sector review of each sector could have clarified whether the demonstration project approach was actually the most promising approach for obtaining environ-

mental benefits in the sector as such and for increasing the competitiveness of the enterprises. As examples:

- Elaboration and dissemination of specific tools for sectors with many small and medium-sized enterprises may to a larger degree have provided sectorial benefits from the programme, including continued EMS-work after project completion.
- In huge countries such as Poland the advantages of the sector approach are not evident. Due to the size of the country dissemination of experience to a whole sector is not likely. A regional approach – or perhaps regional/sectorial - may have improved the probability of reaching a specified target group.
- In some countries the sectorial approach could have benefited from clustering of enterprises of similar magnitude as large and small enterprises do very often have different EMS-goals and approaches to management.

- The programme documents and the project TORs are not as consistent as desired. It is difficult to distinguish between the several objectives stated and to connect the objectives to the outputs and activities prescribed. In addition the objectives would have benefited from being formulated SMART – Specific, Measurable, Accurate, Realistic and Time-Bound. It seems that the Logical Framework Analysis (LFA) or similar tools for project development has not been used for the programme and project formulation.
- The evaluation team finds that the programme documents also at this point could have benefited from a more thought through formulation and recognition of assumptions that should be fulfilled in order to reach project and programme objectives. Use of LFA would have enabled a detailed, explicit assessment of the project approach and key assumptions clarifying the connection between objectives, outputs and activities. This would have made it more plain whether the selected project approach was applicable in all 27 projects.
- Especially the explicit assumptions concerning "spreading of knowledge in the selected sectors" and that "co-operation between industry and environmental authorities is strengthened during implementation of EMS" could have been more thoroughly dealt with. Relevant questions could be:
  - How are project results expected to be spread in the sectors? *If sector organisations are not included in project accomplishment, and if no stakeholder commits to the task of compiling and disseminating tools and experience, there is no guarantee that anything will happen.*
  - How will introduction of EMS increase co-operation between industries and environmental authorities? *There are huge differences in authority tasks, methodologies, and cultures between the participating countries and Denmark. Thus, Danish experience is not directly applicable here.*

  Consideration of these questions could have pointed at needs for adjustment of the project concepts to specific sector or country conditions, further investigations of commitment and capacity of sector associations and possibly involvement of selected additional stakeholders in project accomplishment.

- The evaluation team finds that the project "success criteria" stated in project TORs are not properly connected to the project objectives and results.
  - The "number of enterprises with EMS" provides an indication of the accomplishment of a demonstration project. But the success criteria do not indicate the type or magnitude of the desired environmental improvements in the specific enterprises – or in the sector.
  - The "level of satisfaction of participants" does not relate to neither capacity building, level of know-how or environmental improvements.

  These "success criteria" causes some confusion as they to some degree go across program/project objectives and results. It would have been more useful to have indicators for fulfilment of programme and project objectives and results.

3.2 Findings - Project implementation and results

Findings concerning project implementation and results relate to introduction of EMS in the sectors, environmental results and capacity development, primarily at the level of enterprises.

In the ten projects that are included in this evaluation more than 60 enterprises received profound training in implementation of EMS and twelve enterprises implemented EMS according to the ISO 14000-standard. In two projects no enterprises received a certification for EMS, in both cases this relates to restructuring of the enterprises.

- This phenomenon of restructuring of enterprises and difficulties with the direct implementation of EMS at the enterprises was known from the planning stage and the risks connected herewith was minimised by having the projects run in successive stages:
- The relatively long process of training has given the project management a good basis for pointing out demonstration enterprises for the full implementation of EMS. Starting from a very broad approach with a large number of possible enterprises the field was narrowed during the course of the projects.
- The choice of demonstration enterprises was based on the following considerations: The enterprises should be motivated, they should possess capacity to implement EMS, and they should be of proper size considering the resources and time-frame of the project.

- Many of the projects have had an open approach in inviting enterprises to opening seminars and subsequent participation. This has targeted two purposes: To obtain a broad acquaintance to EMS in the sectors, and to attract the most suitable enterprises for the implementation phase.

3.2.1 Questionnaires and interviews

Questionnaires have been sent to 90 enterprises in the ten sectors, of which 52 filled-in questionnaires were returned, corresponding to a response rate of 57%. The local consultants attached to the project have repeatedly contacted all enterprises that have not responded but it has not been possible to raise the response rate.

	Questionnaires sent out	Questionnaires returned
Estonia, Agro	7	5
Estonia, Electronics	10	7
Latvia, Agro	15	10
Latvia, Pharmaceutical	5	5
Lithuania, Agro	14	8
Lithuania, Textile	10	6
Lithuania, Electronics	10	6
Poland, Agro	7	0
Poland, Printing	5	2
St. Petersburg, Wood	7	3
Total	90	52

The beneath assessment of project results is based on the returned questionnaires[1].

There are relatively large differences in response rates among the countries. Enterprises in Poland and Russia are more reluctant to answering the questionnaires than enterprises in the Baltic countries. For the Baltic countries alone the response rate is 66 (47 answers from 71 questionnaires in seven sectors). In Poland and Russia there is an equal number of enterprises responding to the questionnaires as enterprises refusing (orally or in writing) to answer the questions. In these countries the questionnaires are apparently perceived as some kind of control that the enterprises do not want to be part of. This phenomenon is most distinct in Poland, where this attitude is confirmed also in interviews.

Additional information about project implementation has been compiled through app. 50 interviews with key stakeholders, ranging from enterprises over organisations to authorities and consultants[2].

3.2.2 Environmental results at involved enterprises

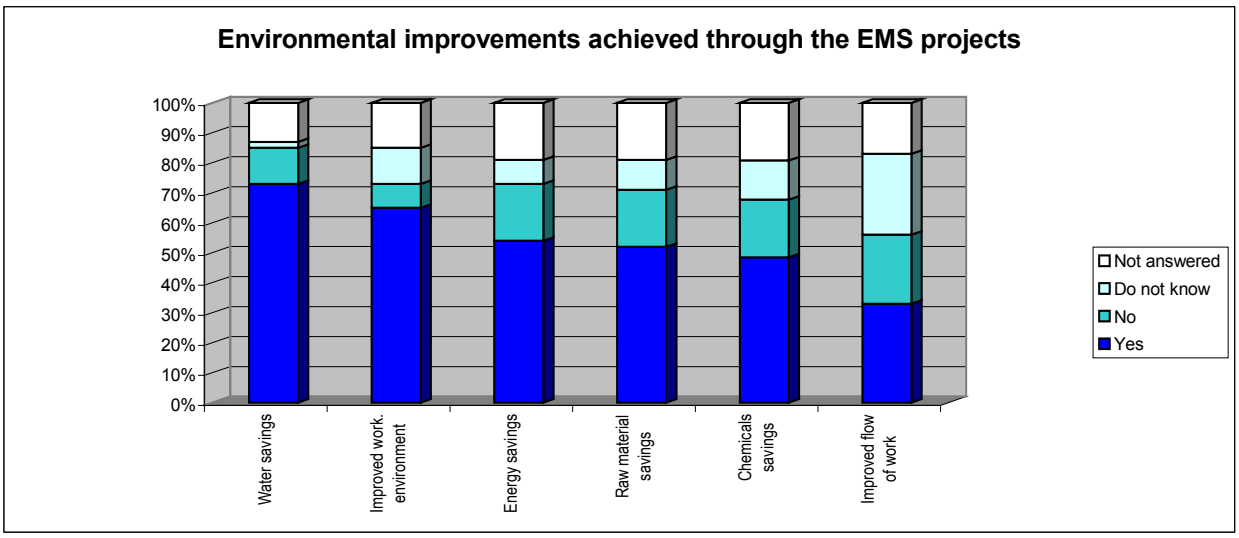
A major expected result of the project was improved environmental performance of the involved enterprises.

- Responses from the enterprises show that environmental results in the form of savings of resources, improvement of working conditions and reduction of production costs have been achieved in many enterprises.

[1] Realising the possibility of bias in this approach, the evaluation team has through interviews seeked to verify the impressions from the returned questionnaires and to obtain information concerning the enterprises not answering the questionnaires.

[2] A list of the interviewees is attached as Appendix B

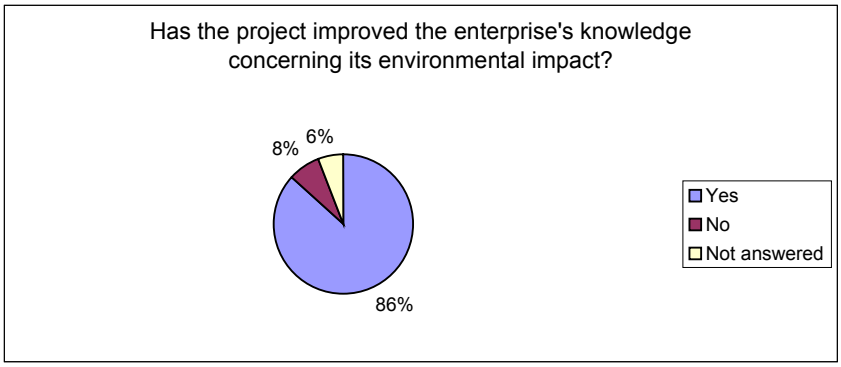
- 73% of the enterprises state that they have reduced the use of water as a result of the EMS projects.
- Around two thirds of the enterprises state that the working environment has been improved.
- Approximately half of the enterprises state to have reduced the use of energy and the use of raw materials and chemicals.



- It is the general impression that the projects have been received very positively at both enterprise and institutional level. The practical concept with real implementation and demonstration instead of tools and manuals has been very popular. This has been emphasised by many stakeholders –at the level of enterprises as well as among of Ministries and sector associations.

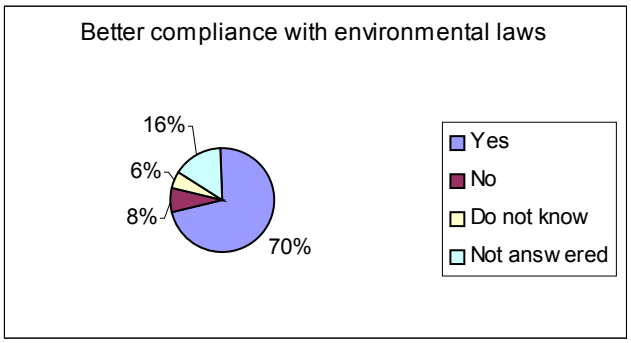
3.2.3 Environmental compliance

One major precondition for improving an enterprise's environmental performance is that the enterprise is aware of its environmental impact.



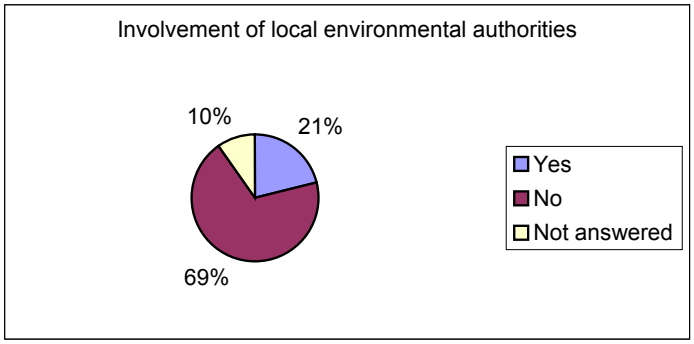
As the above figure illustrates the enterprises respond almost unanimously that the project has improved their knowledge of the environmental impact.

- This corresponds very well with the next figure illustrating that a remarkable share, close to 70%, of the enterprises declare to have achieved better compliance with environmental laws.



Environmental regulations have in most projects been introduced as part of the training, and for many enterprises this knowledge has been an opportunity to improve compliance with environmental legislation and permits.

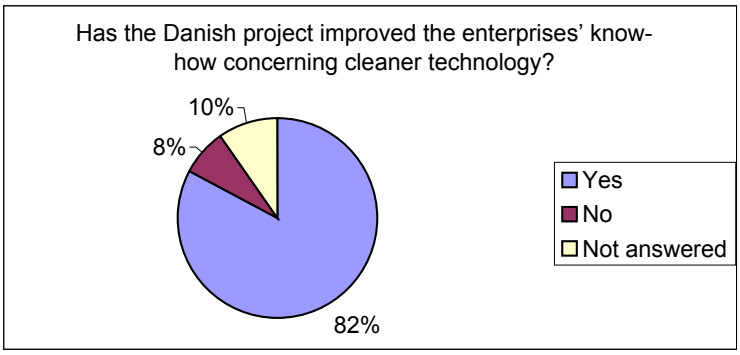
- Acknowledging this the evaluation team finds that the programme and the projects could more specifically have aspired to involve environmental authorities in the project. It was assumed in the programme documents that "co-operation between industry and environmental authorities will be strengthened during implementation of EMS". As further stated, this assumption does not reflect the very diverse regulative approaches in Eastern Europe and Denmark.



As no outputs, activities or allocations of the budget were formulated in the TOR for the projects – except from encouragement to invite representatives to seminars - the level of co-operation has been limited.

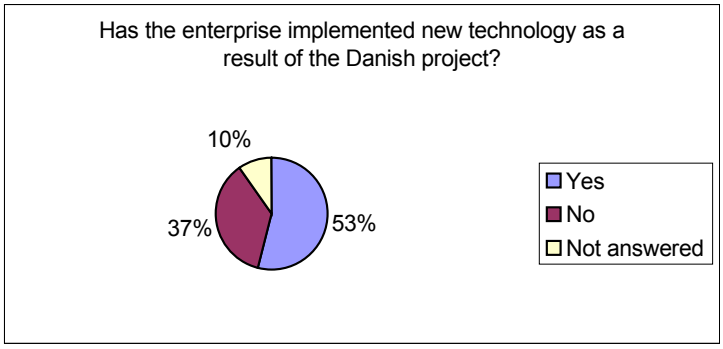
3.2.4 Technology

- Improved knowledge of cleaner technology and thereby increased prevention of environmental impact from industrial production is another cornerstone of the projects. The returned questionnaires provide significant information on this issue.



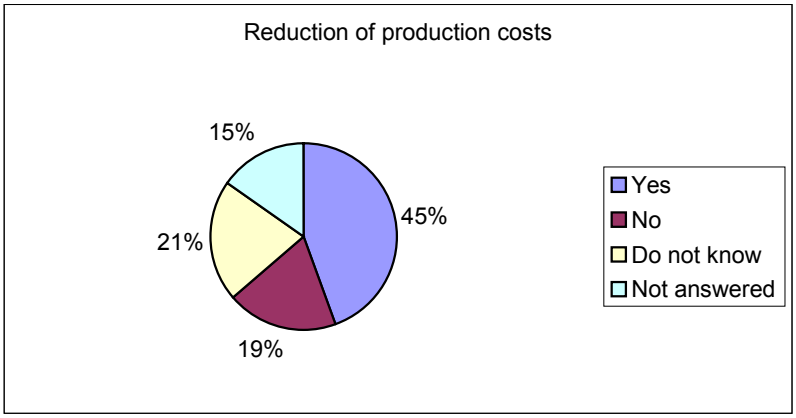
The statement is supported by the interviews with enterprises that express that especially projects with involvement of Danish sector expertise have provided very useful knowledge of cleaner technology.

- The level of investments in new technology indicates that the projects have catalysed certain renewals of the production systems, financed by the enterprises themselves.



Interviews indicate that only a smaller part of the investment funds has been used for purchasing Danish technology. The reason stated is that even if the Danish solutions are technological attractive they are often too expensive for Eastern European enterprises.

- Many of the enterprises have experienced that investments in new and environmentally more effective technology may be lucrative due to the mere savings of resources and increased effectiveness. Interviews have shown that this is one of the most important motivating factors to enterprises that have followed the projects.

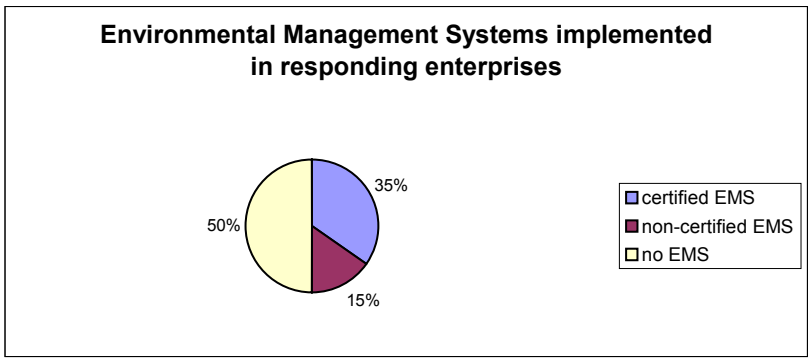


- The relatively high rate of direct profitable investments is emphasised by the fact that 45% of the enterprises have experienced a direct reduction of production costs due to the project whereas less than 20% indicate "no profitability".

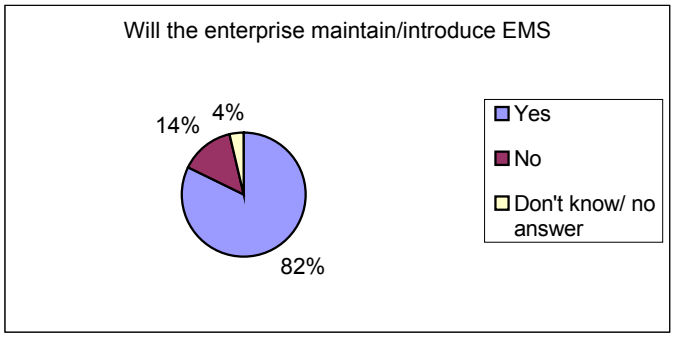
- One of the main objectives of the programme has been to assist in improving competitiveness of the industries. An important step towards this increased competitiveness may be achieved by demonstrating that environmental improvements and increased profitability are not necessarily contradictory. The successful case-stories are the best starting point for increasing industry's interest for EMS.

3.2.5 Introduction of Environmental Management Systems

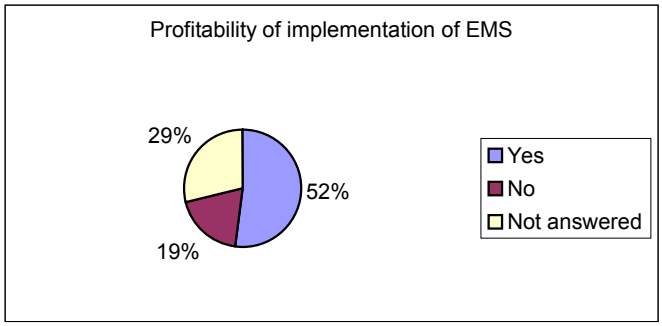
- 26 of the 52 responding enterprises have introduced Environmental Management Systems. Of these, 18 enterprises have been certified according to international standards (ISO 14001). Thus one major result is well achieved.



- Interviews and questionnaires indicate that most enterprises have profited from a good introduction to the possibilities of EMS and gained increased understanding of the advantages of this system.



In general, the enterprises have gained much interest in the use of environmental management systems and a very large part, more than 80%, of the enterprises expects to maintain or introduce EMS in the future. The project has, thus, contributed to establish EMS as an element in the involved enterprises' normal management system.



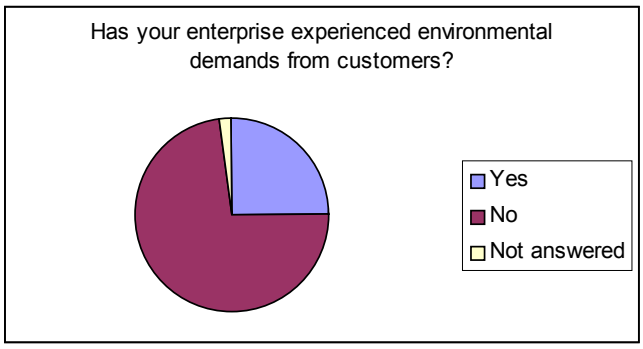
An additional question about profitability of investments in relation to Environmental Management Systems confirms, that 52% of the enterprises find these investments profitable, while 19% of the enterprises reply that investments have not been profitable.

3.2.6 Increased competitiveness

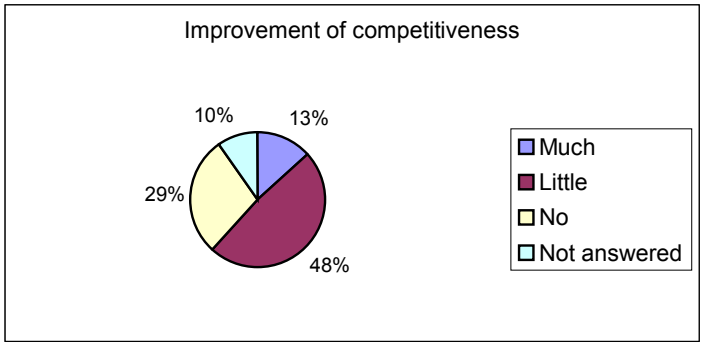
In addition to the direct cost savings, other aspects of improvement of competitiveness relate to the markets in which the enterprises operate.

About half of the projects included in this evaluation have been dealing with sectors, where products primarily are produced for home market. Other sectors (e.g. electronics) are operating in the international market, where management systems play a prominent role and are a precondition for survival. Hence, according to the enterprises' market strategy it is quite different how relevant the introduction of certified EMS has been to the sectors.

- This is further illustrated in this figure demonstrating that only 25% of the enterprises have experienced environmental demands from customers.

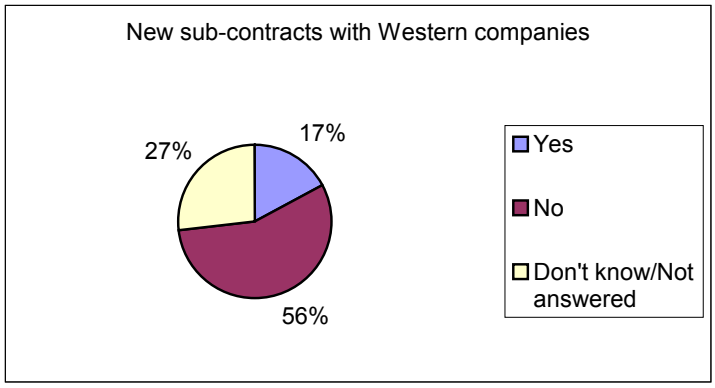


- EMS is expected to bring other benefits to the enterprises than living up to demands on existing markets. In Lithuania, interviews showed that many stakeholders had the impression that EMS would be a precondition for marketing products at the internal market of EU. In Poland, EMS was found to be an important issue in attracting foreign investments as certified enterprises prove more reliable as investment objects.



- All in all, more than 60% of the enterprises state in the questionnaires that they have gained competitiveness through the environmental improvements generated through the projects.

- 17% of the involved enterprises state that they have entered into new sub-contracts with western companies due to the implementation of new tech-nology or re-organisation of the production.



This picture is somehow contradictory to the expression from both the interviewees in the five countries who do not (yet) experience environmental conditions being an important competitive parameter and from the expression from the enterprises concerning that they do not experience environmental requirements from customers.

3.2.7 Capacity building, dissemination

Capacity building within EMS and dissemination of experience to stakeholders were major results anticipated in the programme documents.

- Only a few enterprises in the five countries had implemented Environmental Management Systems prior to the initiation of the Danish programme[3]. With training of more than 60 enterprises and implementation of EMS in twelve enterprises the programme thus has contributed significantly to the knowledge and capacity with in EMS in the involved enterprises.

- The primary beneficiaries are the enterprises that received training and consultations in implementation of EMS. Enterprises that acted as demonstration sites with full implementation of certified EMS have had the most visible outcome, but also enterprises that were not chosen to full implementation have gained valuable knowledge.

- Especially the meetings among enterprises have increased motivation and inspiration to EMS-efforts.

- In general, the project-management's have been aware of the importance of involving of local sector associations and other stakeholders, especially in the beginning of the projects. In the identification of enterprises and opening seminars the project-management's have been in contact with organisations representing the sectors – typically industrial member associations. A few organisations have followed the projects all the way through and also participated in training.

- All projects have presented results with examples from the pilot enterprises at seminars finalising the practical work. Enterprises from the sectors were invited together with representatives from authorities, economic and environmental ministries, sector associations.

[3] A couple of parallel programmes have been supported by e.g. Finnish and US funding. In addition, a few enterprises have implemented EMS as a demand from foreign owners or customers.

- Capacity building within the consultancy sector has been significant. The number and volume of projects have provided consultants with an excellent opportunity to become very familiar with the EMS concept. The consultants are continuing the EMS work after programme finalisation.

- Capacity building within organisations and public institutions is treated below under Sustainability of programme results.

3.3 Findings – Objectives and sustainability

Findings on project preparation, implementation and results are stated above. In this section achievement of the two identified overall objectives and the sustainability of the programme results are assessed.

3.3.1 Fulfilment of objectives

The overall objectives of the programme has been "to prevent and alleviate the environmental load caused by industrial activities in selected sectors" and that "international competitiveness of selected industrial sectors in the target countries has been improved through implementation of environmental management systems".

- The evaluation team finds that implementation of EMS in enterprises suited for such systems are of great value. The results of the project show that most enterprises have achieved environmental improvements and cost savings due to implementation of EMS. Implementation of a management system at the same time improves operation of the enterprise and increases the enterprise's liability as a business partner and supplier. By this, the evaluation team finds that most enterprises that have participated in the programme and implemented EMS have improved their international competitiveness.

- The weak involvement of sector organisations in many projects, the limited dissemination efforts, and the limited elaboration of sector specific tools suited for different EMS-ambitions imply that the projects – and hereby the programme - have primarily been to the benefit of the participating enterprises.

3.3.2 Sustainability of programme results

The sustainability of the programme relies on whether capacity has been built in the involved institutions enabling them to spread the message and continue the EMS focus and practical work. The relevant stakeholders are consultants, industrial organisations and public institutions:

- As stated in section 3.2 the participating consultants in general have experienced very thorough capacity building. The consultants are capable of continuing the EMS work and have been involved in EMS projects since.

- It is the impression of the evaluation team that anchoring and capacity building in sector associations have had difficult preconditions. With a few exceptions the sector associations at the time of project initialisation had limited capacity for investigating new development areas on behalf of the sectors, not to mention taking part in training sessions. The organisations have been occupied with their normal duties - implementation of existing regulations and concern about general development in the sector.

- Unfortunately this means that the main part of the projects have not had close or any connection to industrial organisations after the initial seminars, so the capacity built at organisational level has been sparse.

- The lack of contact with organisations is reflected in the facts:
  - that only few projects have developed tools for future EMS-implementation in the sectors. An obvious possibility would have been a more conscious use of existing Danish sector EMS-tools that could have been translated and adapted to local circumstances; and
  - that sector specific conditions for spreading of the EMS approach to the sector as a whole have not had much weight in the conduct of the projects.

- If the rooting of the EMS concept should have been more embedded into these organisations, some financing of their participation and training of their employees could have been considered. The invitation to an opening seminar (perhaps as a speaker) showed to have only limited effect, as no organisational capacity was backing the initiatives.

3.4 Findings - Administrative aspects

The National Agency for Enterprise and Housing, NAEH, (former National Agency for Trade and Industry) has been responsible for the programme. The Agency has received quarterly reports from the projects and has responded to expressed needs and problems in the individual projects. NAEH has introduced project organisers to official partners in the recipient countries and taken part in opening and closing seminars of the projects.

- NAEH has conducted a continuos collection of experience from the projects through the Final Reports. A seminar has been held for all Danish consultants with the aim of discussing experience.

- It seems, however, that these efforts with advantage could have been strengthened in order to increase co-operation and effectiveness. Interviews

with local stakeholders and Danish consultants provide the impression that the systematic collection and dissemination of experience and good practices across projects and nations could have been more significant.

- The Danish consultants in general state that they have not had exchange of experience with other consultants during project implementation that could provide relevant experience from similar training and implementation activities.

- Several consultants inform that they were not aware that similar projects within the same industrial sector were carried out in neighbouring countries.

- The impression of the evaluation team is that the projects could have benefited from more systemised exchange of experience. Many of the 27 projects were carried out simultaneously with similar sector projects in neighbouring countries. For example projects in the foodprocessing-sector were carried out in all five countries.

- The possibility of elaborating common tools could have been investigated, for example:
  - Sector specific EMS-implementation
  - Involvement of top-management
  - Staff participation and motivation
  - Training of staff
  - Case stories
  - Typical environmental problems in the sector
  - Implementation of cleaner technology
  - The certification process

4. Conclusions

The Danish programme on implementation of EMS to industries is adding to a process, where enterprises in Eastern Europe are facing new market conditions and are developing in accordance herewith. During the last ten years most enterprises have faced considerable restructuring and renewal of management, and as part of this, some enterprises have gained interest in Environmental Management Systems.

The conclusions are divided into two parts in accordance with the main questions of the TOR for the evaluation:

- Assessment of whether the accomplishment of the programme has been satisfactorily in relation to programme goals and the needs of the recipient country. As part of this preparation, project implementation and results are evaluated

- Assessment of whether the Danish support to Eastern Europe has been utilised appropriate with regard to potential improvements of programme strategies, administration and modification of goals and objectives

It should be stressed that the beneath conclusions relate exclusively to the accomplishment of the first ten projects of the programme.

4.1 Accomplishment of the Programme

Project preparation has been characterised of a process involving representatives from all participating countries and sectors. The programme concept fulfils expressed needs of the recipient countries.

The implementation of the projects has in general been successful given the TOR and success criteria stated ("at least one enterprise with EMS"). Almost all enterprises answering the questionnaire report on environmental benefits and better compliance with environmental laws and permits. Most enterprises have in addition increased their knowledge of Danish technical solutions. Local consultants have achieved considerable capacity building within EMS.

However, experience and tools have not been sufficiently disseminated in the respective sectors allowing the EMS approach to be rooted in the business community. The sustainability of the projects is thus not optimal as the anchoring of the EMS approach in existing institutions and organisations is weak.

The dissemination to the industrial sectors and the anchoring in organisations in general have not been adequate to secure the institutionalisation of the programme and the broad capacity building that were envisaged. The co-operation

with environmental authorities has been scattered, and industrial associations have in general only been involved on a broad informative basis.

Whereas the individual project results are satisfying, the evaluating team finds that the probable overall outcome of the programme concerning "increased competitiveness of the industrial sectors in the country" could have been strengthened with a more clear and sector oriented approach.

The reason for the weak anchoring can be traced to the programme TOR that suffer from not being sufficiently clear in stating the objective/output hierarchy and from lack of explicit thought-through assumptions and indicators. A more thorough LFA-approach in project preparation would probably have resulted in revised programme documents and country and sector specific project TOR that could increase the anchoring and spreading of experience and knowledge to the bulk of small and medium sized enterprises in the involved countries.

The co-ordination and experience sharing etc. between projects within each country or similar sector projects in different countries have not been sufficient to avoid duplication of tools and errors, hereby decreasing the efficiency of project implementation.

4.2 Recommendations

In light of findings and conclusions, the evaluation team recommends the following in order to improve future programme strategies, administration and implementation[4]

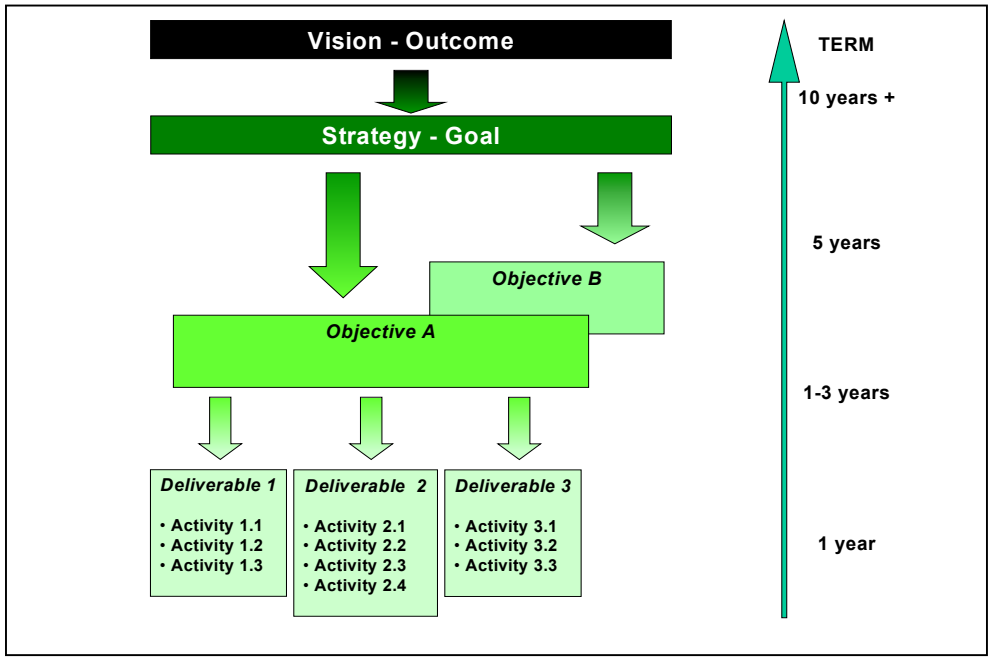
The NAEH should implement a project development tool as, e.g., the Logical Framework Analysis (or Approach), LFA. Use of LFA supports:

- Clarification of development objectives and immediate objectives
- Highlighting of linkages to external factors (assumptions)
- Connection between objectives and outputs
- Definition of key elements and indicators for project progress and success
- Handling of uncertainties and decisions

With this the LFA supports elaboration of objective oriented and transparent programmes and projects.

A transparent programme with projects could be built up as illustrated in the following figure, starting with formulation of vision, goals and objectives.

[4] Some of the recommendations have already been implemented due to NAEH monitoring of project and programme implementation.



Objectives should be formulated SMART:

S – Specific	Descriptive or quality statement, clear about what, where, when, and how the situation will be changed
M – Measurable	Able to quantify or otherwise made tangible, data should be available
A – Accurate	Including measures such as quantity, location etc.
R – Realistic	Able to obtain the level of change reflected in the objective
T – Timely	Including a time-bound measure, stating the time period within which the objectives will be achieved

Indicators should be used to monitor progress in achieving goals, outcomes, objectives and outputs. This is especially relevant for programs that have long term purpose as the outcome cannot be recorded immediately. Relevant and credible indicators provide a management tool for analysing programme performance – and at the same time provide a response to the increased demand to demonstrate results of government activities.

During implementation of programs and projects the Agency should maintain focus at objectives. If success criteria are connected to outputs (or deliverables), the main purpose of the project risks to be "hidden" behind the ambition of producing the outputs.

With a huge effort like the EMS programme the NAEH should devote more time for country specific and sector specific project preparation. During this it should be assessed to which degree local conditions and needs call for adaptations of a general project model.

To improve the anchoring of projects in recipient countries, the needs and capacities of the involved organisations should be assessed from the outset. The stakeholder analysis may contain elements such as:

The stakeholder analysis typically includes: Identification of stakeholders; selective analysis of stakeholders' needs and viewpoints; setting of priorities for involvement and information. The major communication channels to the most relevant industrial sectors should be identified and taken into consideration. If found necessary the organisations should be supported in participating in the project execution enabling compilation and dissemination of experience and case stories.

Close co-operation with industrial organisations will increase the probability of spreading of the message to SMEs. To further increase the adoption of the concept in SMEs, sector specific tools for different levels of ambition could be elaborated with inspiration from the numerous Danish tools. Potential drivers for the different sectors' use and implementation of the tools and messages produced should be identified and used in dissemination.

Appendix A

Questionnaire, Enterprises

Name, address and country of responding enterprise:

_____

Branch:_____ _____

1. Environmental Management System

1.1 Have your enterprise implemented Environmental Management System?

Yes:___ No:___

* If yes:

1.1.1 Is the system certified after the ISO 14001 or EMAS?

Yes:___ No:___

* If yes:	1999	2000	2001	2002
1.1.2 When did the enterprise achieve the certificate?	__	__	__	__
1.1.3 Has the system been recertified? If yes, when	__	__	__	__

1.1.4 * If no: What is the primary reason for not having been recertified? (Please, mark one)

Lack of funding to continue: ___
Irrelevant to the enterprise's customers: ___
Low expectations of outcome of certification: ___
Were not given the possibility by the project: ___
Too big investments in cleaner technology: ___
Other reasons – please specify: ___
Do not know: ___

1.1.5 Have investments related to the Environmental Management System been profitable to the enterprise?

Yes:___ No:___

1.2 Does your enterprise have an Environmental Policy?

Yes:__ No:__

1.3 Does your enterprise have a written plan for environmental improvements?

Yes:__ No:__

1.4 Do you make a yearly internal Environmental Management System Audit?

Yes:__ No:__

1.5 Do you plan to implement an Environmental Management System in the near future (two years)?

Yes:__ No:__

1.6 Which elements in the Danish project have been of most relevance and use for your enterprise?

1.6.1 Daily supervision (sparring)? __
1.6.2 Seminars and training courses? __
1.6.3 Visits to or experiences from other companies? __
1.6.4 Others, please specify _____

Appendix A

1.7 Are the working staffs more skilled in environmental aspects than before the project?

Yes:___ No:___

2. Environmental Performance

2.1 Have the Danish project improved the enterprises know-how concerning cleaner technology?

Yes:___ No:___

2.2 Have the project improved the knowledge concerning the enterprises environmental impact?

Yes:___ No:___

2.3 Have the enterprise implemented new technology as a result of the Danish project?

Yes:___ No:___

2.4 Have implementation of new technology or re-organisation of the production lead to (please mark each line):

2.4.1 Savings in use of energy	Yes: ___	No:___	Do not know:___
2.4.2 Savings in use of water	Yes: ___	No:___	Do not know:___
2.4.3 Savings in use of raw materials	Yes: ___	No:___	Do not know:___
2.4.4 Savings in use of chemicals	Yes: ___	No:___	Do not know:___
2.4.5 Better flow of work in the production	Yes: ___	No:___	Do not know:___
2.4.6 Reduction of production costs	Yes: ___	No:___	Do not know:___
2.4.7 Better working environment	Yes: ___	No:___	Do not know:___
2.4.8 Better compliance with environmental laws	Yes: ___	No:___	Do not know:___
2.4.9 New sub-contracts with western companies	Yes: ___	No:___	Do not know:___

2.5 Have the local environmental authorities been involved in environmental improvements due to the Danish project?

Yes:___ No:___

2.6 Have your enterprise used *local* private consultants due to the Danish project?

Yes:___ No:___

2.7 Are any of the enterprise's environmental improvements caused by demands from customers?

Yes:__ No:__

3. The market profile of the enterprise

3.1 What is the turnover for different markets?:	0-20%	20-50%	50-75%	75-100%	?
3.1.1 Home market	__	__	__	__	__
3.1.2 Eastern and Central European market	__	__	__	__	__
3.1.3 Danish market	__	__	__	__	__
3.1.4 Western European market	__	__	__	__	__
3.1.5 Other markets	__	__	__	__	__

Appendix A

3.2 Have your enterprise experienced environmental demands from customers?

Yes:__ No:__

3.3 Does your enterprise focus at suppliers / sub-suppliers environmental performance?

Yes:__ No:__

4. Future aspects

4.1 Does your enterprise expect to maintain/introduce Environmental Management System?

Yes:__ No:__

4.2 Does your enterprise use environmental issues in promotion of your products?

Yes:__ No:__

4.3 Have your enterprise's competitive power strength as a result of environmental improvements?

Much:____ Little:_____ No:_____

Appendix B

Persons interviewed

Lithuania

Mr. Salius Smalys	Chief Desk Officer of the European Union Support Administration Division
Ms. Viktorija Maceikaite	DANCEE contact
Ms. Irena Urbonienė	Environmental Quality Department, Ministry of Environment
Mr. Juozas Martinonis	Director of Industry and Business Department, Ministry of Economy
Mr. Stasys Ivanauskas	Senior Specialist in Business Competitiveness Department, Ministry of Economy
Mr. Alexander Schultz	The Danish Embassy
Mr. Rimantas Budrys	President of Lithuanian Industrialist Confederation Engineering Ecology Association
Mr. Konstantinas Iljasevicius	Institute of Environmental Management and Audit
Ms. Emilija Jelisejeviene	Kaunas Technical Univeristy, APINI

Enterprises

Mr. Andrius Karciauskas	Production and Technical Director, Audejas (textile)
Ms. Gema Liniene	Chief of Quality Audejas (textile)
Mr. Audrius Bagdonas	Vingriai (electronics)

Estonia

Ms. Veronica Vers	Ministry of Environment
Mr. Aare Sirendi	Head of Environmental Protection Department, Environmental Inspectorate
Ms. Eire Endrekson	Executive Officer of Quality Infrastructure Division, Ministry of Economic Affairs of the Republic of Estonia
Ms. Kai Helm	Managing Consultant, Co-operative Agreement between Estonian Ministry of the Environment and Danish Environmental Protection Agency,
Mr. Madis Rausi,	Commercial Adviser, Royal Danish Embassy
Ms. Helve Remmel	Managing Director, Association of Estonian Food Industry
Ms. Siret Talve	The independent interim evaluation and monitoring services of PHARE

Appendix B

Mr. Toomas Rang	Professor of Electronics Design, Director of the Department of Electronics, Tallinn Technical University
Mr. Indrek Ruiso	Association of Electronic industry, (ELA)
Mr. Toomas Pallo	Director, ELLE (environmental consultancy)

Enterprises

Mr. Aular Soon	Chief Technologist, Brandner PCB OÜ (elektronics)
Ms. Anu Allmere-Martinson	Administrative director, HR & quality manager, Tallinna Piimatööstur (food)
Mr. Rein Triisa and Mrs Ene Türk	Vilma (food)

Latvia

Ms. Astrīda Burka	Deputy director of Department of Industry, Ministry of Economy
Mr. Armands Plāte	Head of Division of Technology Unit (Department of Environmental Protection), Ministry of Environment
Mr. Raina Dūrēja	Executive director, Association of Latvian chemical and Pharmaceutical Industry
Mr. Jānis Sietiņsons	Deputy director of Department of Agricultural Branches and Processing Development, Ministry of Agriculture
Mr. Ligija Vulfa-Platkāje	Commercial Advicer, The Danish Embassy
Mr. Viktors Mende	President, Latvian Federation of Food Enterprises
Mr. Valdis Kaprālis	Director, Foundation of Environmental Protection

Enterprises

Ms. Dace Tītmane	Coordinator of EMS, Brewery „Aldaris”
Ms. Imants Dāvidsons	Director of Quality Assuarance department, Pharmaceutical company „Grindeks”

St. Petersburg

Mr. Sergei E. Naryshkin	Chairman, The Committee for External Economic and International Relations, Russian Federation, Leningrad Region Government
Mr. Kirill V. Avdeev	Head of Division for External Economic cooperation, Administration of St. Petersburg Committee for External Relations
Ms. Anastasia Marova	Senior Expert, Administration of St. Petersburg Committee for External Relations

Appendix B

Ms. Elena L. Titova	Committee for Nature Use, Environmental Protection and Ecological Safety, St. Petersburg City Administration
Mr. Vladimir A. Dievski,	Natural Resources and Forestry Committee of the Leningrad Region Government
Mr. Oleg Korablin	Auditor, ECOLLOYD (environmental consultancy)
Mr. Igor Kopaissov,	Director, ECOLLOYD (environmental consultancy)

Enterprises

Ms. Svetland A. Marusheva	Manager, DOZ-2 (wood)

Poland

Ms. Krystyna Panek	Acting Director, Chief Inspectorate for Environmental Protection & International Cooperation and European Integration Department
Ms. Anna Wajnberger	Chief Specialist, Ministry of The Environment & Department of Environmental Policy and European Integration
Mr. Jan Daszewski	Director, Polish Center of Inspection and Certification
Mr. Andrzej Sulinski	Inspector, Polish Center of Inspection and Certification
Mr. Zdziaslaw Adamski	Director, Polish Chamber of Printing Industry
Ms. Elzbieta Nitecka	Board Office Director, Association Of Private Dairy Processors

Enterprises

Mr. Adam Walczak	Technical director, Agros

Danish Project Organisers

Ms. Lone Nielsen	Green City Denmark
Mr. Karsten Nielsen	DHI
Mr. Lars Holst Jørgensen	Teknologisk Institut
Ms. Lone Carlsen	NIRAS
Mr. Morten Guld Nielsen	Carl Bro A/S
Mr. Tom Hornshøj-Møller	Eurofins