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ENVEDU

**Creation of the Environmental Evaluation System
for Educational Establishments**

Project location	Riihimäki
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% of eligible costs	49,91 %

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LIST OF CONTENTS

EXECUTIVE SUMMARY	3
INTRODUCTION	4
1.1 Tasks of the Project	5
1.2 Beneficiary	6
1.3 Partners	7
1.4 Project organisation	8
2. METHODOLOGY	10
3. RESULTS	11
3.1 General	11
3.2 Pre-evaluation (Task 1.1).....	12
3.3 Environmental Criteria (Task 1.2)	14
3.4 Environmental Certification Organization (Task 1.3).....	17
3.5 Auditing system (Task 1.4).....	20
3.6 Environmental Training (Task 2).....	23
3.7 Training of auditors (Task 3)	25
3.8 Step-by-Step Guide to EMAS (Task 4).....	27
Comments	28
4. DISSEMINATION (TASK 5).....	29
5. PROJECT MANAGEMENT AND REPORTING.....	36
6. EVALUATION AND CONCLUSIONS.....	37
7. FINANCIAL REPORT, COMMENTS	ERROR! BOOKMARK NOT DEFINED.
ANNEXES	ERROR! BOOKMARK NOT DEFINED.

EXECUTIVE SUMMARY

The main objective of the project was to support the incorporation of sustainable development in the management, teaching and maintenance activities of educational establishments. For this purpose, an environmental certification system based on the nationally approved environmental criteria was created. The certification system consists of a certification body that awards environmental certificates to schools and of a network of registered competent auditors who verify that schools fulfil the environmental criteria and the certification requirements. To support schools in their work in practice, training for construction of an environmental management system fulfilling the environmental criteria and the certification requirements has been offered throughout the project. External auditors required by the system have also been trained during the project.

At the beginning of the project, a pre-evaluation on the state of the environmental issues in schools in EU countries was carried out to give up-to-date information and facts for the development of the Environmental Criteria and Certification. Conclusions made on the basis of the information gathered and visits made to three EU states during the pre-evaluation showed that tailored environmental criteria are needed for schools, especially for teaching, that requirements concerning management should be adapted to schools, that costs of certification and/or registration should be moderate, and that schools clearly need additional support, material, tools, etc. to improve their environmental work.

The basis for the environmental work and certification system are the Environmental Criteria elaborated in the project and accepted by the Finnish educational authorities. The Criteria complies with the guidelines (core curriculum) given by the National Board of education in Finland on how environmental matters should be incorporated in teaching and learning. The environmental certification body was set up in the OKKA Foundation, i.e. one of the partners in the project. Environmental Certification of educational establishments started officially on the 19th March 2004.

Guidelines for conducting external audits required by the certification are included in the Auditor's Guide. A tool for self-assessment, which must be carried out before applying the Certification is included in the Guide "Environmental Certification and EMAS Registration of Educational Establishments". The Guide covers the environmental work in schools from the initial evaluation to the certification and from certification to EMAS Registration. It also gives some guidance on how the Eco Schools system can be benefited in the Environmental Certification. The guides and tools developed in the project are available on the website of environmental certification (www.koulujaymparisto.fi), and by mail order from the OKKA Foundation.

In addition to the beneficiary, the project had two main partners. Furthermore, 161 educational establishments participating in the training courses organised in the project, also had the partner status. The project received financing from the EU LIFE Environment Instrument and from the Finnish Ministry of the Environment. The sub-contractors used in the project were the University of Joensuu, the University of Oulu, and the Cooperative Eco-One.

INTRODUCTION

Hyvinkää-Riihimäki Vocational Adult Education Centre (HRVAEC) has been working on environmental issues related to educational establishments, training teachers and other employees of schools on environmental matters, and participating in international projects dealing with these matters for several years. HRVAEC has gathered a lot of information and expertise in this field. However, reaching the state in which environmental matters would be implemented in schools at all levels and in all activities needed further work and resources. In recent years, Finland has managed quite well in various international assessments of education and learning. This supported the idea of developing ways and means to incorporate environmental matters not only in management and maintenance of schools but also in teaching and learning, and demonstrating the development results at the European level.

The 5th Environmental Action Programme of the EU has obliged educational establishments to incorporate sustainable development in their activity. In many countries, there is also a national obligation to include sustainable development in the course syllabi and a recommendation for schools to construct sustainable development action plans. In Finland, the National Board of Education has recently given the new guidelines (core curriculum) for education plans in schools. The guidelines require that environmental issues are included in all subjects taught in comprehensive, grammar, elementary and secondary schools as well as in vocational educational establishments.

The EU EMAS Regulation applies also to the public sector. However, the number of EMAS Registrations and ISO 14001 Certificates has been very limited in the educational sector throughout Europe. The reasons for this are manifold. There is a lack of knowledge and models of how to incorporate sustainable development in the management, teaching and learning, and the maintenance activities in schools. Limited resources for the required work in schools make the construction of environmental management systems a much slower process than for example in industrial organisations. The environmental management standards are strenuous to implement and maintain. Registrations, certifications and audits are expensive. Teachers and other school staff are not familiar with the terminology used in the standards. Applying the standards in the core activity of educational establishments, i.e. teaching and learning, is difficult, because the standards lack direct connection to this type of activity. However, educational establishments have a central role in promoting the ideas of sustainable development in society and in teaching the environmental knowledge and skills needed in tomorrow's working practices.

On this basis, it was concluded that educational establishments could benefit from applicable models, tools and training for incorporating environmental matters in their activities, and that various incentives would further encourage them to strive towards EMAS Registration. Consequently, creating these models and tools was set as the objectives in the project. In practice, it was planned to elaborate environmental criteria, auditing methods and environmental certification method, all tailored especially for educational establishments, and to organise environmental training and training of auditors, and offer support and tutoring to schools for construction of environmental management systems. The environmental certification system would then consist of the environmental criteria, internal and external auditing, trained auditors and a certification body awarding environmental certificates.

1. PROJECT FRAMEWORK

1.1 Tasks of the Project

The tasks of the project were described in the project proposal with the following picture:

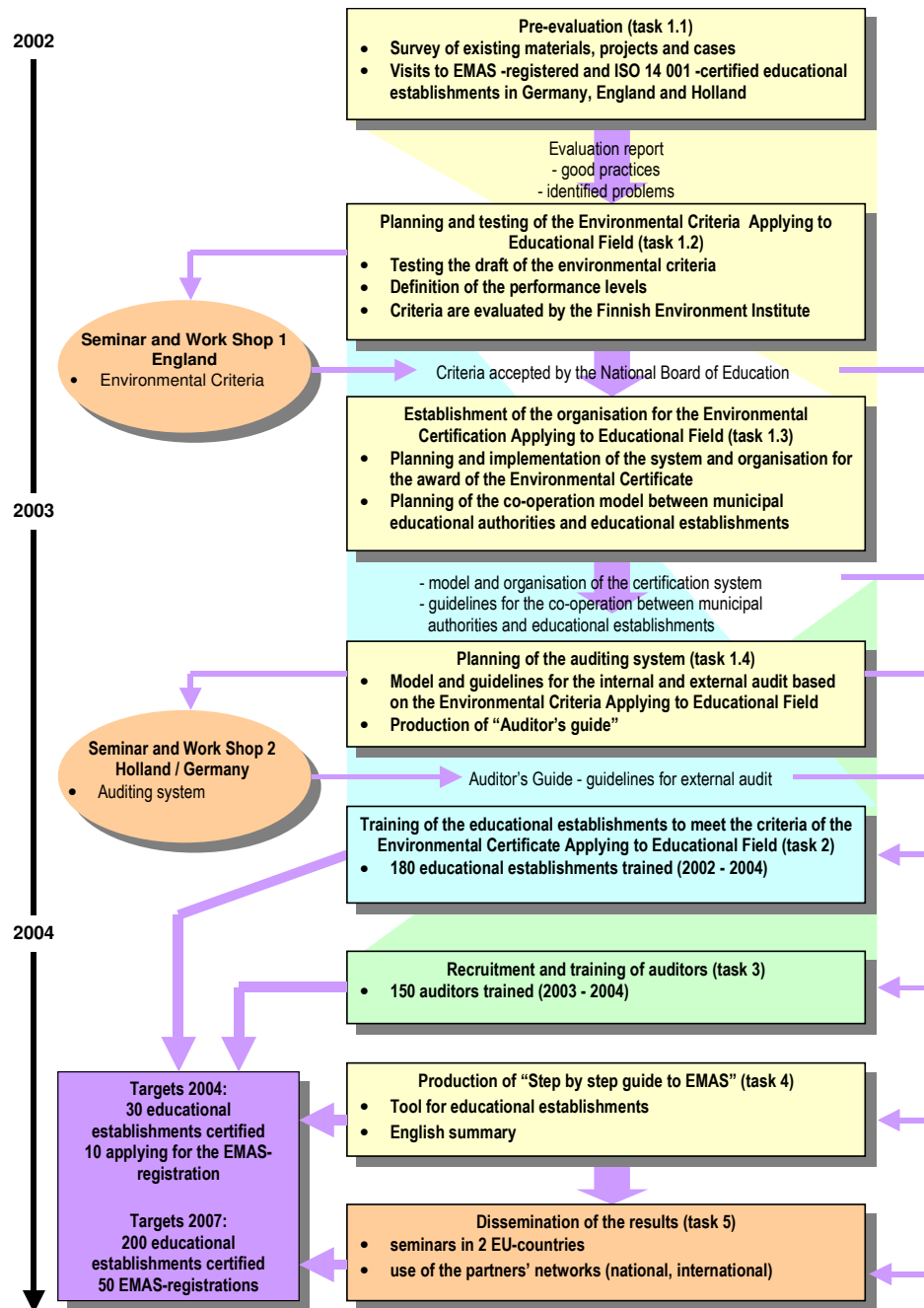


Figure 1. The original Project Plan.

The tasks form four separate entities: The tasks 1.2, 1.3, 1.4, 3 and 4 aim at creating the Environmental Certification system. They are not completely independent and separate tasks and, in fact, were developed simultaneously and in parallel; The tasks 1.1 (Pre-evaluation) and 2 (Environmental training) are kind of supportive activities; The task 5 covers dissemination efforts and the task 6 includes the management and reporting in the project.

The first task in the ENVEDU project was to evaluate the situation in Europe (task 1.1). Information on environmental certification of schools, environmental management systems applied in schools and other environmental activities and projects carried out in educational establishments were to be collected through the Internet and during visits to some EU countries especially for developing the environmental criteria.

In the task 1.2, the objective was to complete the draft Environmental Criteria, which included testing the applicability of the criteria by using them in auditing four schools, improving the draft criteria, defining the performance levels and having the Criteria approved by the National Board of Education. The Environmental Criteria form the basis for the Environmental Certification of educational establishments. During the project, it turned out that it is best to move the definition of the performance levels of the environmental criteria from this task to the task 1.4 planning of the audit system. Establishing an Environmental Certification Body to award certificates for educational establishments fulfilling the approved Environmental Criteria was the main objective in the task 1.3. The task included also reaching an agreement with the project partners of their roles in environmental certification activity. Furthermore, a model for cooperation between municipal educational authorities and decision makers and educational establishments was to be created in the task 1.3 to support and guarantee the continuity of the Certification. Task 1.4 included planning of the audit system consisting of an internal audit (self-assessment) before applying for Environmental Certification and of an external audit before awarding the Environmental Certificate. Producing the Guide "Environmental Certification and EMAS Registration of Educational Establishments", which was called "Step-by-Step Guide to EMAS" in the project proposal, and an English Summary thereof were the objectives in the task 4.

Environmental training (task 2) was focused on helping educational establishments construct environmental management systems and prepare them to meet the requirements of the Environmental Certificate by providing them with knowledge and skills of sustainable development needed in incorporating environmental matters in the management, teaching and maintenance activities in schools. Establishing a nation-wide network of environmental auditors with knowledge of educational establishments and the public sector as well as the approved Environmental Criteria was the main action in the task 3.

1.2 Beneficiary

Hyvinkää-Riihimäki Vocational Adult Education Centre (HRVAEC), the beneficiary in the LIFE ENVEDU Project, is one of the 47 adult education centres in Finland. The education centres form a nation-wide network of vocational training. The HRVAEC is a rapidly developing school offering training services both at the regional and national level. The HRVAEC is maintained by the Vocational Training Foundation, which is owned by four municipalities (Hyvinkää, Riihimäki, Hausjärvi and Loppi). The number of regular employees in the HRVAEC is 75, its the turnover is about 5,5 million euros,

and annually over 4300 adults are trained in various courses. The HRVAEC has offices and training facilities in Hyvinkää, Riihimäki, Hämeenlinna and Helsinki.

The core competences of the HRVAEC's training and project activities relate to business and administration, building and construction, building services and regional heating, logistics, metals, plastics, wood, cleaning services, restaurant, information technology, product development, safety and security, environment and entrepreneurship. The HRVAEC has the ISO 9001 and ISO 14001 certificates.

1.3 Partners

The LIFE ENVEDU Project has two main partners, i.e. the Trade Union of Education in Finland (Opetusalan ammattijärjestö, OAJ) and the OKKA Foundation (OKKA stands for 'teaching, education and training fields'). The project has a number of other partners as well. Namely the educational establishments and other organisations whose teachers and other employees participate in the training courses organised in the ENVEDU project. Altogether 161 partner agreements have been signed with schools and educational establishments, whose teachers or other personnel participate in the environmental training courses and in the training courses of auditors.

The Trade Union of Education is the only labour union in the world that looks after the interests of people (teachers) working on the pre-elementary stage up to the continuous adult education stage. It has about 111 000 members and is the most powerful member organisation of the Confederation of Unions for Academic Professionals in Finland (AKAVA). Over 95 percent of teachers active in working life are members of the Trade Union of Education. The Trade Union of Education is also an organisation strongly and actively influencing and contributing on the rules and development of education in Finland. The Union has a regional organisation with shop stewards and local associations in almost every municipality. It also has active and close international connections.

The OKKA Foundation started its work for the benefit of teaching, education and training in 1997, when two foundations working in the educational field joined their forces. The OKKA Foundation supports and promotes the development of teaching, education and training fields, scientific research in this field, actions taken to increase the effectiveness and value of this field and cultivation of art education and training.

The Trade Union of Education and the OKKA Foundation were represented in the steering group and in the working groups of the project. They have been actively involved in the development work and pre-evaluation, organizing training of auditors and developing the auditing system, establishing the certification body, dissemination and information activities, visits to other EU countries and their educational establishments, etc. The role of the other partners, i.e. the schools and other organizations participating in the training courses, has been somewhat different and they represent other type of expertise, knowledge and skills.

Teachers and other employees of schools have the best knowledge of the situation of the management and organization of environmental matters in educational establishments as well as of incorporation of environmental issues in course syllabi. They are able to assess, what has been done and what is possible to do with the limited resources the schools have and on the basis of the know-how school staffs in various educational establishments possess. Therefore, the role of school partners in

the project was to test and assess models, tools and guides produced in the project and to suggest how they should be modified and improved. This was done during the training courses, in which group works, discussions and project works included testing and assessment of various parts of the environmental certification system in practice, and giving feedback to support their further development.

1.4 Project organisation

The project organisation comprised of the steering group, ad hoc working groups and the project group. The steering group for the project was set up in autumn 2002 after the decision from the Commission had been received. The members of the group represent the following organisations:

- Ministry of the Environment;
- National Board of Education;
- OKKA Foundation;
- Trade Union of Education in Finland (OAJ);
- The Association of Finnish Local and Regional Authorities;
- Torpparinmaki Comprehensive School;
- Hyvinkää-Riihimäki Vocational Adult Education Centre;
- SYKLI Environmental School of Finland.

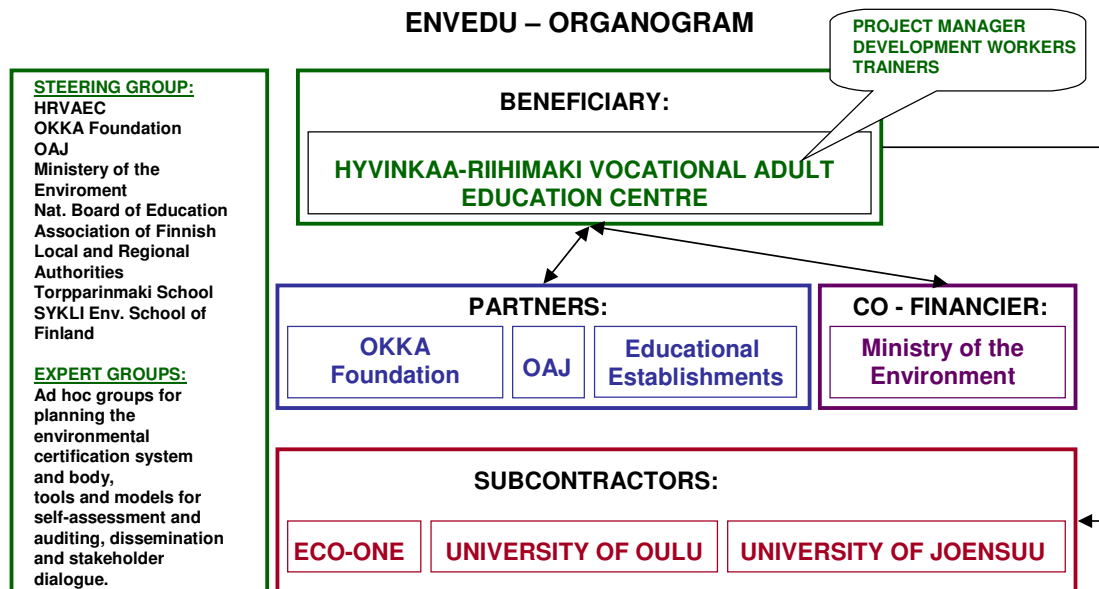


Figure 2. The organogram of the Life ENVEDU Project.

The Steering Group met two to three times a year, depending on the issues to be dealt with and decided on. The main tasks of the steering group were to guide the

development work in the project, to take decisions concerning the establishment and organization of the environmental certification system of educational establishments, and to participate in dissemination and stakeholder dialogue. The steering group was also responsible of the future of the certification system after the completion of the project.

Ad hoc working groups were used in the project to deal with and to develop the environmental certification system, the tools and models for self-assessment and auditing, and dissemination plan and stakeholder dialogue. Members of these groups represent the project partners, experts in environmental management and certification, e.g. the EMAS Authorities in Finland, Eco Schools system, educational establishments and teachers.

The ENVEDU project required also expertise that neither the beneficiary nor the project partners possessed. Therefore, some tasks were subcontracted mainly to three different organizations. The University of Joensuu took part in the development of the environmental criteria and the self-assessment tools and models, planning and organizing environmental and training and training of auditors. The University of Oulu prepared background studies and material for the development of environmental criteria, environmental training and training of auditors as well as participating in organizing the training courses. The Cooperative Eco-One's assistance was beneficial in the pre-evaluation phase, in contacting various schools and organizations in other EU countries, in practical organization and carrying out of training courses and exercise audits, in planning the environmental certification system and in using eLearning systems and practices.

Two progress reports and one Interim report precede this final report.

2. METHODOLOGY

The methodology used in the project was based on the interaction between the developers and users. The HRVAEC as the beneficiary acted as the coordinator of different actors and actions in the project and managed the project. It acted also as an expert in environmental issues, environmental management and certification systems, as well as in teaching and training. Additional expertise and knowledge were received from the three subcontractors. In training courses, some lectures by experts outside the project organisations were also given to maximise the benefit to the participants. Project partners took part in the work in their relevant fields and bore responsibility of steering the development of the project to the right direction. Other outside expertise was used on the ad hoc basis in the working groups.

Developing the environmental criteria for educational establishments was based on the earlier work done by the HRVAEC in other projects. An important factor in the development of the criteria was the guidelines (core curriculum) for education plans in schools given by the National Board of Education. The schools in Finland are obliged to follow and fulfil these guidelines. Therefore, the environmental criteria developed in the project had to be in line with these guidelines and education plans developed in schools on the basis of them.

In developing the environmental criteria, the models and the tools for self-assessment and audit systems, the educational establishments whose teachers and other employees participated in the training courses were used as contributors. During the training courses the participants tested, assessed and gave feedback of the applicability of models and tools developed in the project. Discussions, group works and project works were planned in such a way that continuous input was received from the participants. This type of working method ensured that the final products take into account the reality, possibilities and resources available in educational establishments in integrating environmental matters into the management, teaching and learning and maintenance activities in a way that the approved environmental criteria are met. It also enabled developing the system to be applicable in different types of schools and at different level of education.

Two working groups have been used in developing the environmental certification system, self-assessment and auditing, dissemination plan and stakeholder dialogue. The members of the working groups represented expertise on environmental auditing as well as environmental certification (ISO 14001) and registration (EMAS). They also represented environmental and educational authorities, educational establishments and teachers, the Eco Schools system, municipalities, etc. The work of these groups was very efficient, competent and benefiting. The contribution of the members of these two groups made it possible to find excellent practical solutions for the very complicated and difficult issues that they handled.

3. RESULTS

3.1 General

The deliverables and outcomes of the different tasks in the project can be grouped in different categories. The deliverables of the tasks 1.2 (environmental criteria), 1.4 (auditor's guide) and 4 (Guide "Environmental Certification and EMAS Registration of Educational Establishments") are publications that cover items relevant to the Environmental Certification system. The outcome of the task 1.3 is the structure, body, actors, rules and functions of the Certification system. Training of auditors (task 3) is essential for the functioning of the certification system and the task produced a network and a registry of competent auditors. The pre-evaluation (task 1.1) and environmental training (task 2) are supportive processes in the development of the certification system. The pre-evaluation tasks produced a report and the outcome of the environmental training is the numerous schools and teachers who participated in the courses. Communication and dissemination actions (task 5) produced brochures, articles, slide presentations, posters etc. The deliverables of the management task (task 6) are the reports to the Commission.

Chronologically, the tasks 1.2, 1.3, 1.4 and 4 more or less followed each other. The task 1.1 had to be done at the beginning of the work. The environmental training in the task 2 was carried out throughout the project, but the training of auditors in the task 3 could not be started before the auditing system in the task 1.4 was under way and reached some kind of form. The dissemination (task 5) and management (task 6) were naturally carried out from the beginning to the end of the project.

Most of the tasks were started and/or completed later than anticipated in the original project plan. There were serious reasons for this, which are explained elsewhere in this report. However, the timetable was caught up in the later stage of the project. All deliverables have been produced. It can also be concluded that the objectives of the project were achieved in all areas except one, i.e. the number of certified educational establishments remained lower than estimated in the project proposal.

Tasks	2001	2002				2003				2004			
	4	1	2	3	4	1	2	3	4	1	2	3	4
Task 1.1 Pre-evaluation		████████████████											
Task 1.2 Environmental criteria		████████████████											
Task 1.3 Environmental certification Organisation					████████████████	████████████████	████████████████	████████████████					
Task 1.4 Auditing system					████████████████	████████████████	████████████████	████████████████					
Task 2 Environmental training		██											
Task 3 Training of auditors									████████████████	████████████████	████████████████	████████████████	
Task 4 Ste-by-step guide to EMAS										████████████████	████████████████	████████████████	
Task 5 Dissemination					████████████████	████████████████	████████████████	████████████████	████████████████	████████████████	████████████████	████████████████	
Task 6 Project management		██											

Picture 3. The progress of work.

3.2 Pre-evaluation (Task 1.1)

Pre-evaluation was started at the beginning of 2002. An evaluation plan as an internal document was produced and the work was carried out accordingly. Information was gathered on projects, initiatives, programmes, and cases, which support and promote construction of environmental management systems in educational establishments, collecting other relevant existing material, and compilation of cases representing best practices at schools. Additionally, it was examined, how many educational establishments have EMAS Registration and in what stages schools are in their development towards the Registration within the EU. Information was gathered through the Internet searches and through inquiries to various international contacts the beneficiary, the partners, and the subcontractor had.

The survey showed that at that time there were only few EMAS registered educational establishments. In Germany, there were 35 EMAS registered schools, in Austria three and in Sweden two (in 2003 the number of EMAS registered organisations in the educational sector was 51 in Europe). However, it seemed that the number of EMAS registrations in German and Austrian educational establishments was growing. Educational establishments with a ISO 14001 certificate were found in Germany, Austria, Finland and the UK, but the number was low, much lower than the number of schools, in which environmental review has been carried out and an environmental management system constructed.

On the basis of the survey, both advantages and disadvantages could be identified in the use of EMAS registration and ISO 14001 certification in educational establishments. The following advantages are worth mentioning in this context:

- Educational establishments receive a certification or a registration symbol that is well known among companies and other stakeholders.
- The activity in vocational schools is closely linked to enterprises. Construction and maintenance of environmental management systems can be integrated into teaching so that the students are familiar with them when they graduate and start working.
- Regular external audits give extra support to the work and add credibility to the system.
- Environmental management systems require documentation and reporting on performance and results. The environmental work in schools become widely known and increases transparency of school activities and functions.
- Holistic approach, environmental aspects are given consideration in all activities.
- System thinking makes for example all staff groups to work together.
- Documentation and continuous improvement support the continuity of the environmental work.
- Environmental management systems are based on target setting, i.e. they are goal oriented.

Especially in schools offering general or basic education, the following disadvantages can be identified:

- The EMAS Regulation and the ISO 14001 standard require large documentation, which is not necessarily essential and important in environmental development work in schools.
- Environmental management systems require that deviations and corrective actions be reported. This does not necessarily mean improvements in development work.
- Auditors have limited experience and knowledge of educational establishments. The main process in schools is teaching. Environmental issues should be integrated into this. Teaching is not a similar process as a process in industrial production: The main task of teaching does not cause direct environmental impacts. Environmental performance of teaching cannot be measured using the same indicators as industrial processes, logistics, etc. Environmental audits in schools require different attitude, approach and criteria.
- Management and administration of EMAS and ISO 14001 environmental systems are heavy and expensive. Decision makers have at least not yet realized that environmental work in schools need resources. Many of the EMAS registered and ISO 14001 certified schools have received external financial support for construction of systems, certification and registration as well as for maintenance of systems. Without outside financial assistance construction of the environmental systems in these schools would have been impossible.
- Terminology of EMS is not familiar to teachers.
- Teaching is the main process in schools, but the standards do not have a natural connection to teaching and its environmental aspects.

The organisations and the countries for visits were chosen on the basis of the information gathered and analysed during the pre-evaluation phase. The aim was to visit countries, where the environmental work and certification in educational establishments have advanced remarkably and where there are also other environmental projects carried out or being in progress supporting this type of work. Another target was also to find different types of schools for visits, i.e. comprehensive schools, secondary schools, vocational institutes. It was concluded that the best countries to visit in this respect are Austria, Germany and the Netherlands. Summary of the visits and the main discoveries are presented in the following.

The visits gave useful additional information to the evaluation and analysis of the situation and results achieved in a number of schools. They also gave ideas and information on how to construct environmental management and certification systems for different educational establishments.

Conclusions made especially concerning the construction of environmental management systems in schools are:

- tailored criteria are needed for schools, especially for teaching
- requirements concerning management should be adapted to schools
- costs of certification and/or registration should be moderate
- schools clearly need additional support, material, tools, etc.

Comments and conclusions

The objective of the task 1.1 was to collect information on the existing European application of the EMAS regulation and the ISO 14001 standard in the educational field, e.g. good practices, problems, internal auditing, etc., for the development work and for ensuring the transferability of the results to other European countries. Creating networks with other European actors in this field and visits to six to eight organizations in different EU countries that are advanced in the field of environmental management in education were also planned.

The four actions in the task included planning of the pre-evaluation, carrying out a survey of existing materials, projects and cases, visits to EMAS-registered or ISO 14001 certified educational establishments, and production of the evaluation report.

The material collected has been used in various tasks in the project, especially in developing the environmental criteria and the certification system. The visits were made to Austria, Germany and the Netherlands. Altogether, 10 educational establishments and organisations were visited, i.e. this fulfils the objectives set in the project proposal. The Pre-evaluation report was elaborated mainly for the internal purposes of the project. However, it is available in Finnish in the project's website. A Summary of the Report in English is also available in the project's website.

The pre-evaluation was started about a month later than originally planned, i.e. after the receipt of the Commission decision on co-financing. Visits were also made a little later than foreseen in the project proposal. At that stage, the project group was also busy in organising the work in the project, which postponed the publication of the pre-evaluation report until January 2003. However, the material and the results of the pre-evaluation were available for the project staff and did not delay the progress of the project.

3.3 Environmental Criteria (Task 1.2)

Four educational establishments representing different levels of education were audited in Oulu, Turku, Joensuu, and Savonlinna. The audits took place from 7 February to 7 March 2002. The schools were asked to comment the results and the criteria used, give feedback on the applicability of the requirements, needs of improvement and the auditing methods. The results of the audits were collected in a report, which also includes recommendations for improvement and further development of the draft environmental criteria.

The draft environmental criteria were used as teaching material in the environmental training courses organized in the project during 2002 and 2003 and participants were asked to comment, give feedback and suggest improvements on them. Comments were asked also from the project partners, OAJ and OKKA Foundation. The Finnish Environmental Institute (Suomen ympäristökeskus, SYKE) commented the draft criteria in 2002.

The National Board of Education required that the criteria concerning teaching and learning be developed further to be compatible with teaching and learning as defined in the national guidelines (core curriculum) for general and basic education, e.g. elementary schools, and education in secondary schools, including upper secondary schools and vocational training schools on the 2nd stage, on which the education plans in all schools are based.

On the basis of the feedback and comments received the draft criteria were developed further and improved. Great help and assistance was received from the Finnish Association for Environmental Education (Suomen ympäristökasvatuksen seura, SYKSE) especially for developing the criteria concerning teaching and learning but also those concerning management and maintenance. Other expertise was also used in developing the criteria, e.g. expertise on environmental management, environmental issues in maintenance of schools, environmental education and education planning. Experts on these matters were found in the beneficiary's own organization, in partners' organizations, in sub-contracting organizations, and on the voluntary basis in other organizations represented in steering committee and ad hoc working groups. The Trade Union of Education represents teachers in the projects and its contribution was desired to balance the strong input by the National Board of Education, which represents national education authorities.

The National Board of Education examined and considered the draft criteria several times in the winter 2002-2003. The final approval was received in 12 March 2003. The foundation of the environmental criteria is the principle of continuous improvement, which has a connection to quality management. The environmental criteria have been elaborated in accordance with the demands, which the environmental management standards (ISO 14 001 and EMAS Regulation of EU) require from the operational planning, control, evaluation and development. However, the criteria differ from the standards to suit better for the educational establishments. The environmental criteria consist of three entities, which are

1. Planning, organising and developing of environmental issues
2. Teaching and learning
3. Maintenance activities

The aim of the criteria concerning planning, organising and developing of the environmental issues is to ensure the consistency and continuity of the environmental work of the educational establishment. Central parts are including the environmental issues in the values and management of the educational establishment, planning of the environmental programme, internal co-operation and participation, environmental instructions, education and communication as well as evaluation and development of the activities. Additionally, complying with the requirements of the environmental and occupational safety legislation, as well as safety activities and precautions for accidents and emergency situations are reviewed.

The most important part of the criteria deals with the issues concerning teaching and learning. The environmental education is reviewed by the criteria as a process of continuous improvement, in which planning, implementation, evaluation and development follow one another. This part of the criteria is based on the theoretical planning model for environmental education developed by J.A. Palmer (*ref. Palmer, J.A. 1998. Environmental Education in the 21st Century. Theory, practice, progress and promise. Rout ledge, London*), according to which the implementation of environmental education is evaluated from three perspectives, i.e. education about the environment, education in or from the environment, and education for the environment.

The maintenance activities of the educational establishment have direct impacts on the environment, e.g. in procurement, use of materials, consumption of energy and water, and waste management. Taking into account these environmental issues play an important part in influencing the environmental knowledge, skills and attitudes of

the pupils and school staff. In order to have credibility the school must act as it teaches. The environmental issues related to the maintenance activities enable the pupils and school staff to participate in the implementation of the environmental programme in practice.

Determining the performance level for each criterion took place in the connection of developing the auditing tools (task 1.4). Defining the performance levels turned out to be a very difficult task. It was considered that it is easier to set the levels in parallel with defining the auditing methods and tools. Another reason for postponing this task was that it gave more time to think and test various alternative levels.

The environmental criteria were published in Finnish and Swedish in August 2003. The criteria are also available on the project's website, on the website of the National Board of Education, and on the website of environmental certification of educational establishments. The English version of the criteria is available on the project's website and on the website of environmental certification of educational establishments. The environmental criteria were also published and distributed as the appendix to the Teachers' Magazine in November 2003. There are almost 100000 subscribers to this magazine, which means that the circulation of the environmental criteria has been remarkably large among the most important readers and users.

The international seminar and workshop to be organised in England by 15 October 2002 were finally organised in Germany in March 2003. The reason for changing the venue was that the Pre-evaluation showed that having the seminar in Germany would be more beneficial, i.e. environmental management in educational establishments is more advanced in Germany, more experts would participate the seminar and it would be possible to have participants from the Netherlands as well, more feedback would be received, etc.

Comments and conclusions

The objective of the task 1.2 was to complete the criteria for the environmental evaluation of educational establishments. In practice, this meant using the draft environmental criteria elaborated earlier in auditing four educational establishments representing different levels of education, and developing the draft criteria further on the basis of the comments and results received. Finalising the criteria included also defining the performance levels and indicators for each criterion. Furthermore, it was planned to ask the Finnish Environment Institute to evaluate the criteria.

The main problem in the development of the environmental criteria for schools and other educational establishments was in finding a common understanding on the content of the criteria among all those taking part in the development work. This delayed the completion of the work. However, later the delay turned out to be an advantage. More and wider expertise had to be used in the planning and preparation work. As a result, the final approved environmental criteria are far better than they would have been without this extra work.

The feedback and comments received in the environmental training courses on the approved environmental criteria has been positive. The participants of these courses were of the opinion that this type of criteria that gives a school an understanding of what environmental matters mean in the practical teaching, everyday activities and management has been longed for. They have also discovered that the criteria are very helpful in developing education plans, e.g. curricula and course syllabi, in schools.

The environmental criteria were also presented to German and Dutch experts in the seminar organised in Hannover, Germany in March 2003. The seminar concluded that the challenges of introducing environmental management systems in educational sector are more or less the same throughout Europe. Tailored models, criteria and training are needed to support educational establishments in this task. The participants showed great interest in the environmental criteria, because similar approach has not been introduced in German and the Netherlands.

The section in the environmental criteria concerning teaching and learning is the most innovative part of the criteria. The project group has not found nor identified any similar or corresponding criteria elsewhere in the EU countries or outside the EU area.

3.4 Environmental Certification Organization (Task 1.3)

In the first phase, HRVAEC, OKKA Foundation and Cooperative Eco-One carried out the planning of the certification system. Later, the National Board of Education, OAJ, the Finnish Environmental Institute, Torpparinmäki School, and the Association of Environmental Education joined in the work. These organizations formed one of the ad hoc working groups used in the project. The contribution of the working group was very useful and beneficial. For example, the roles of external auditors and the certification body and the tasks of the certification body were planned and determined together in the group. The final version of the certification system was completed in September 2003 before the first training course for auditors started.

The initiative to create environmental criteria for schools and other educational establishments and to establish a certification body to award certificates to schools fulfilling the criteria came from the Trade Union for Education in Finland and the OKKA Foundation a couple of years before the start of the Envedu project. These two organisations, which are also project partners, have also been very actively involved in planning of the certification system. The common understanding among the partners, the beneficiary and other organizations involved in the work was that the OKKA Foundation is the most suitable organization to act as the certification body needed by the system. Because the certificate is voluntary, the National Board of Education was not considered suitable for this purpose. A voluntary system could be linked too closely to the regulatory activities carried out by the National Board of Education. The Trade Union for Education gives its full support to the OKKA Foundation in carrying out the responsibilities of the certification body. The task of the Trade Union for Education in Finland is to support the implementation of the system as well as promote its use in the educational field.

The Board of the OKKA Foundation as the body in the Foundation having the sole right to make decisions makes also the decisions on awarding of certificates. A committee comprising of representatives of relevant organisations to assist the Foundation will be officially nominated in December 2004. Furthermore, an environmental expert will be employed in the Foundation after the Envedu project has been completed. The expert will assist the Foundation and the committee in the everyday running of the certification system as well as developing the system.

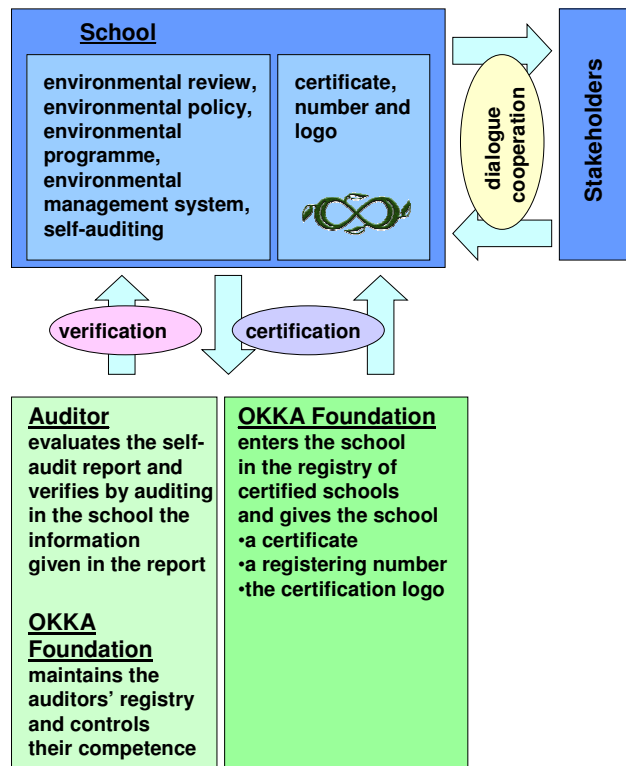


Figure 4. *The Environmental Certification System of Educational Establishments.*

The Environmental Certification system involves also external auditors. Auditing within the school is required before applying for a certificate. A certified school also has to send annually a self-assessment report to the auditor for verification to ensure that its environmental performance still fulfils the required level. Every third year, the auditor must audit the certified school for renewal of the certificate.

Applying for the certificate is free of charge for educational establishments. However, they must compensate for the work and travel costs of the auditor, and possible cost for hiring a substitute teacher to replace the auditor on the auditing day.

Auditors have been trained in the five training courses for auditors (task 3). The competent auditors are entered into the auditors' registry maintained by the OKKA Foundation. The OKKA Foundation also controls the competence of the auditors in the registry. The auditing system and the Auditor's Guide were elaborated in the task 1.4.

The school receives the environmental certificate with a registration number and the logo after the decision of the Board of the OKKA Foundation.

The long term financing of the Certification Body is still to be settled. However, the decision on financing of the Body till the end of 2005 has been made between the OKKA Foundation and the Ministries of Education and environment. Discussions on the matter with environmental and education authorities were started already in 2003. The Ministry of the Environment, the Ministry of Education, the Finnish Environment Institute, the National Board of Education and the Association of Finnish Local and Regional Authorities are the most important operators in this context. The project

partners, the Trade Union for Education and OKKA Foundation, have been and are still being very much involved and their contacts and contribution are crucial in reaching successful results. They are also very committed to the Certification Organisation and its work and risk their credibility and image in case the certification system will not continue in the future years. The board of the OKKA Foundation has ratified the Rules for Environmental Certification, which also cover the responsibilities and tasks of the Foundation with regard to the maintenance and development of the certification system. The board has also agreed and recorded its will to bear the responsibility for the certification system.

The National Board of Education is also very dedicated to this issue and has promoted and supported the system. For instance, the Board has decided to give financial support for organising training to teachers in constructing environmental management systems in year 2005. It has also decided that in 2005, vocational educational establishments can apply for financial support to auditing costs. The certification system is also very closely linked to the guidelines (core curriculum) for education plans in schools given by the National Board of Education.

Environmental Certification of schools and educational establishments started officially on 19 March 2004. The starting date was delayed, because the negotiations with the Commission concerning the financing of the project were not concluded until late in the autumn 2003. The partners in the project decided to postpone the starting date until the financing is clear.

The relationship of the Certification Body and System to EMAS is thoroughly demonstrated in the Guide 'Environmental Certification and EMAS Registration of Educational Establishments (*in the project proposal called Step-by-Step Guide to EMAS*) produced in the task 4.

Co-operation between authorities, decision makers and educational establishments has progressed this far to the point that it has been agreed that the teachers who have completed successfully the training of auditors and have registered in the auditors' registry are allowed to have a leave of absence for a day or two to carry out external audits. The teachers receive compensation for the loss of salary. The debate is still going on how to compensate the possible loss in retirement benefits and on other such issues. The OKKA Foundation will give recommendations for the fees of external audits as soon as the common agreement upon the suitable compensation for auditor's work has been achieved.

Other issues have also been discussed, e.g. how to get sufficient resources for schools for their environmental work, how to develop and improve cooperation between different authorities in municipalities (educational, financial, purchasing, construction and maintenance, etc.) to support environmental work in schools. The tasks involve so many actors and activities that discussions will continue even after the end of the project. The seminar in the Netherlands in June 2004 was very useful also for developing this issue. During the seminar, various ways some Dutch vocational schools use and possibilities there are for cooperation with municipalities were discussed. These discussions brought up, for example, the use of Agenda 21 activities of municipalities to support the environmental certification of educational establishments.

Comments and conclusions

The objectives of the task 1.3 were to set up a body for the award of the Environmental Certificates, to agree on the roles between the project partners in the implementation of environmental certification, and to establish a co-operation model between municipal educational authorities or decision makers and educational establishments to safeguard the future operation of the auditor network. According to the project proposal, planning and implementation of the certification system and the organisation for the award of the Environmental Certificates were to be carried out in co-operation between experts and the project partners using work groups. Elaboration of the co-operation model between municipal educational authorities and educational establishments was allocated to the project partners together with the Association of Finnish Local and Regional Authorities using work groups.

The roles between the project partners were agreed in full cooperation. The OKKA Foundation bears the main responsibility of the functioning and maintenance of the system. Discussions on financing the system have been going on for a long time. By the end of the project, decisions on the matter had not been made. However, in January 2005, the required resources for the maintenance of the system were secured for the year 2005. Negotiations for finding a long-lasting financial basis for operation are continuing.

The Environmental Certification of Educational Establishments is an independent system. It is not governed, administered or controlled by authorities. It is clearly a system organised and maintained by the educational field itself. The functioning and continuance of the system depends, in addition to the finance, on the demand by educational establishments. As long as the educational establishments see the system useful and want to apply certification, there is need for the system and the OKKA Foundation will continue to maintain it.

3.5 Auditing system (Task 1.4)

Planning of the model and the tools needed for the implementation of internal and external audit based on the environmental criteria applying to educational field was started in December 2002. Preliminary work was done already before that. The self-assessment model (internal auditing) and tool as well as guidelines for external auditing existed already in the spring 2003. They were completed in August 2003 along with the training material.

The subcontractors in the project, i.e. the University of Joensuu, the University of Oulu and the Cooperative Eco-One, had central roles in developing these models, guidelines and tools. The experts of the University of Oulu focused especially on providing theoretical background information. The main emphasis of the work done in the University of Joensuu was in assessment of teaching, education, learning and participation criteria. The Cooperative Eco-One's expertise was used in planning the practical functions and operations of auditing system and in searching for examples and information of useful solutions in the other EU countries. The project partners as well as teachers and other personnel of educational establishments, educational authorities and environmental experts also at municipal level contributed to this work.

A draft tool was used, tested and developed further during the first training courses for auditors. It was clear that further testing and development was needed. The main problem in determining the performance levels was that the environmental criteria are

meant for all schools and educational establishments, but applying them is different at different level of education and in different types schools. It became also clear that one tool is not enough. Separate tools had to be developed for general education and vocational training.

The required amounts of points from the scored criteria were also set in this context. This required also some flexibility in applying the criteria concerning teaching and learning. The three areas of environmental education, i.e. education about the environment, education in or from the environment, and education for the environment, are not of similar value in different level of education. For example, education about the environment is more emphasised and the education in or from the environment less emphasises in the vocational training than in the general education. Therefore, there are different requirements for lower secondary schools, upper secondary schools and vocational educational establishments.

The auditing system covers the requirements for a competent auditor and characteristics of a good auditor, planning of an external audit and carrying out an external audit. These all are linked to the rules of the Environmental Certification of educational Establishments.

The contribution of the educational establishments, who are partners in the project, has been received during the training courses. The self-assessment model and the tool were tested and developed further in the first training courses of auditors. In the following training courses of auditors, the focus was more on the external auditing guidelines. During the courses, the participants' role was to assess the models and the tools, their applicability in their schools, whether they are understandable, if the required performance levels are too high or low, etc. The course elements were designed in a way that giving and getting feedback, critic and suggestions for improvements were an integral part of each stage of training. The exercise audits carried out at the end of each training course gave a lot of information on the auditing system itself as well as on the desired qualities of auditors in practice.

Training of competent auditors has been carried out in the task 3. The auditing system requires that the auditors are independent of the schools they are auditing. This is guaranteed by the auditing rules. The auditor must not be of the school he or she is auditing. If the auditor does not comply with the rules, the OKKA Foundation can withdraw the auditor from the auditors' registry. The OKKA Foundation monitors the auditing results and the performance of the auditors continuously. It also maintains the network of auditors and provides additional training to maintain the knowledge and skills of auditors.

The model and the guidelines for external audits are published as an "Auditor's guide", which was sent to the print in September 2004. The number of copies printed was 600. The Guide can be bought from the OKKA Foundation at a very low price (4 € plus postal costs) and it is also available on the Certification's website. The draft version of the guide was available as course material in Auditors' training in Autumn 2003. Printing of the guide was delayed from the original date, because it was considered to be rational to collect all possible experiences and information from the mock audits in Auditors' courses as well as certification audits to be included in the guide.

Guidelines for the internal audits (self-assessments) are incorporated in the guide "Environmental Certification and EMAS Registration of Educational Establishments", which was called "Step-by-Step guide to EMAS" in the project proposal (task 4).

Comments

The objective of the task 1.4 was to plan the model and tools needed for the implementation of internal and external audits based on the environmental criteria applying to educational field. According to the project proposal, an expert network (partners and subcontractors) should be used for this purpose. In addition, workshop techniques should be used to get feedback from teachers, other personnel of the educational establishments, educational authorities and environmental experts.

The aim of the environmental audits is to verify, whether the environmental performance of a school is at the level required by the environmental criteria for schools and educational establishments. This cannot be done simply by answering “yes” or “no” to the different criteria. Some performance levels are required for each criterion. The minimum level for awarding a certificate also had to be set. The task became complicated, because the schools applying the environmental criteria are very different in size, number of students and teachers, level of education, field of education, etc. Consequently, different levels are needed and they were also elaborated. Naturally, this took more time than originally planned. However, the work was done by the time the official environmental certification started in March 2004.

In this work, the courses for training of auditors became very useful and helpful. The participants came from different schools and could contribute to the work by giving their comments and experience on how this could be done in their schools. The training courses were also planned in the way that participating in the development work was an essential part of the courses. Among the participants, there were also representatives of other school personnel and municipal staff than those of the teaching staff, which was important in setting the levels for maintenance activities in schools. Educational authorities, e.g. National Board of Education, has been throughout the project actively involved in the work and followed the progress and outcomes. It has also given guidance in matters concerning the fulfilment of the guidelines (core curriculum) for the education plans in schools. Other environmental experts were used in the development work as well.

The subcontractors, i.e. the Universities of Joensuu and Oulu and the Cooperative Eco-One, had an important role in developing the audit system. The Joensuu and Oulu Universities gave valuable expertise based on the research and development work they have done in the field of environmental education. Eco-One's role was greatly in the practical work in planning and carrying out the mock audits during the training courses and elaborating guidelines for audits on the basis of the experience gained. To help in organising a training course in Turku area, Varsinais-Suomen Agendatoimisto (*The Agenda Office of Southwest Finland*) was employed in the work as a subcontractor. The Agenda Office was responsible of marketing the course and organising the necessary facilities in the similar manner as the Universities of Oulu and Joensuu have been doing in their geographic areas.

The Auditor's Guide, which contains all guidelines for external auditors, was completed in the early spring in 2004, before the environmental certification of schools started on 19 March. However, the availability of the Guide was restricted only to the participants of the training courses and the registered auditors and other people involved in the certification process until it was decided in September 2004 that it is printed and published.

The guidelines for internal audits (self-assessment) are included in the guide “Environmental Certification and EMAS Registration of Educational Establishments” (see the task 4), because self-assessment is clearly part of the overall environmental development work in schools and should not therefore be separated in a different guide. The required amount of points collected from the scored criteria were also set and are available on the certification website.

3.6 Environmental Training (Task 2)

Environmental training to assist educational establishments to construct environmental management systems and to prepare them to meet the criteria of the Environmental Certificate was started in winter 2002. Nine courses in various parts of Finland have been organised during the project. Two courses will continue after the completion of the project. Altogether 204 teachers from 149 schools and educational establishments from all over Finland have been trained in these courses.

The eight month long training course consists of 6 to 8 days of class teaching with theory lectures, group working and cases, and periods of out-of-class learning and projects at work place, i.e. constructing environmental management systems in participants’ own schools. It showed early on that the original plan of having only 5 days in classroom is too little and classroom days were increased. Guidance was provided during periods outside classrooms by phone, email, and by using eLearning tools, e.g. WebCT. The students were able to ask help and assistance from tutors and the tutors monitored the progress of the students.

The main aim of the environmental training courses was to construct an environmental management system in each participating school, or at least to start to construct it. The construction of an environmental management system in an educational establishment was taught phase by phase. Between the days in classroom, construction work was carried out as project works. The results were monitored and advice and guidance given in the following classroom day. The discussions between the course participants on the good practices and possible problems were especially valuable. These discussions took place both on the eLearning platform and in classroom. The participants were also obliged on the basis of the partner agreements signed with participating schools, to test, study, comment and give feedback on the application of the environmental criteria, the performance levels, etc. The experiences gained from the courses were very valuable also for developing the Step-by-step guide to EMAS (task 4).

All schools, whose teachers or other employees came to the courses, had not reached the level, in which construction of an environmental management system would be possible or the time period would be long enough to complete it. The construction of an environmental management system fulfilling the approved environmental criteria takes a long time. The work, however, progressed during the courses. The schools, which had progressed further, were also prepared and interested in continuing towards environmental certification.

The experience shows that about 95 percent of the participating schools can complete the environmental review during the training and some of them can finalize the environmental program. The process to change existing methods and practices take time, approximately two to four years. The limited resources allocated to environmental work in schools are also a hindrance to quick progress. Some of the schools participating in the environmental training courses send their teachers also to

the training courses of auditors. During these courses, it is clearly seen that these schools are progressing really well towards environmental certification. It can be concluded that training courses and new models and tools available push the schools forward and toward the right direction.

At this stage, it can be also said that the work has been more challenging than anticipated. The environmental criteria cover all activities in schools, which means that a lot of resources are needed to get results. It was also understood earlier that the environmental performance level in Finnish schools is higher than it turned out to be. Though schools tell that they focus on environmental matters, the situation in practice can be very different, i.e. only little has been done and almost no results achieved. Earlier environmental matters have been taught in the connection of natural sciences. The new guidelines (core curriculum) for education plans in schools given by the National Board of Education requires that environmental matters be incorporated in all course syllabi. This is a new and very demanding requirement and has to be taken into account in the construction of environmental management systems and in assessing the environmental performance levels in schools. This requirement is also included in the Environmental Criteria, which the schools must fulfil to receive a certificate.

The training courses were organized in various parts of the country to get as wide geographical covering as possible. Most participants come from schools offering general education while participants from vocational training schools represent the minority.

Comments and conclusions

The objectives of the task 2 were to help educational establishments construct environmental management systems and prepare them to meet the criteria of the Environmental Certificate Applying to Educational Field, to increase the number of educational establishments with readiness to apply for EMAS registration, to improve teachers' and other school personnel's knowledge of sustainable development and its incorporation in the managements, teaching / learning and maintenance activities, and to form a basis for the establishment of the auditor network.

In the project proposal, it was envisaged that by the end of 2003 environmental certificates are awarded to 10 educational establishments and by the end of the project the total of 30 educational establishments have received the certificate. In reality, the certification did not start until March 2004. By the end of the project, 4 certificates had been awarded. It has been estimated that constructing an environmental management system in an educational establishment takes at least a year, often much longer. Though the environmental training courses have grown longer and cover larger areas of environmental matters than planned originally, it was clearly seen during the first training courses that more knowledge and time are needed in order to reach the results set for the project. It is also clear that there is need and demand for this type of training. Interest in environmental certification has also been steadily increasing since the start date. At the time of finalising this report, i.e. at the end of February 2005, already few other schools have set up a date for environmental auditing to gain a certificate.

It was foreseen in the project plan that 180 educational establishments participate in the environmental training. The number of schools taking part in the training is 149. This is because the number of participants from one school is not one, but one to

even four. It is even recommended that at least two participants from each school would attend the same course to better distribute, disseminate and implement the lessons learned into the activities and practices of the school. Consequently, the number of teachers participating in environmental training courses is higher than estimated, i.e. altogether 204 teachers were trained by the end of the project. (NOTE: All schools have not signed a partner agreement. Therefore the number of "teacher partners" does not correspond to that of the participants/schools in the training courses.)

Altogether nine environmental training courses were organised, two of these will end after the project end date. This is three more courses than was originally planned. The beneficiary covers the costs of the continuance of the last courses, i.e. they are not covered by the project. Teachers' and other school personnel's knowledge on sustainable development has definitely improved in the course of the training. The content of the training courses has also improved remarkably during the project. The training has formed a basis for the establishment of the auditor network: Participants of the courses have been informed of auditors' training and they have showed interest in attending that training. Some teachers have already passed auditors' training as well.

Interest in constructing EMS and applying for certification has clearly increased in schools after the first certification was awarded. In addition to the four already certified schools, six schools have reported their interest in applying for the certificate in the near future. At the moment, it seems realistic to estimate that by the end of the year 2005 there will be at least close to 30 certified schools, i.e. the target figure given in the project proposal for the year 2004. There are some schools that have improved their environmental performance in order to meet the requirements of the EMAS regulation and some have even shown interest and readiness to apply for EMAS registration.

Training of teachers will continue also in 2005 by the support of the National Board of Education.

In the Interim Report, a plan to organise an environmental training course in Swedish was mentioned. There has been enough interest to organise a Swedish course, but due to the lack of training material in Swedish, the course had to be postponed. However, necessary material has been translated during the last months of the project. Therefore, the first Swedish course will be reality most likely in 2005.

3.7 Training of auditors (Task 3)

The first courses for the training of auditors started in autumn 2003. Altogether five courses have been organised during the project. The number of participants in these courses is 107 and the number of participating educational establishments and other organisations is 81. As can be seen, more than one person participated from each organisation.

The target of the training course was to give the participants the knowledge and skills needed for conducting internal and external environmental audits in educational establishments. Competent auditors are needed for the purposes of the environmental certification, i.e. an independent and competent external auditor must carry out an audit in a school before the school can apply for certification. The course consisted of

four classroom days and a mock audit, in which the theory was tested in real-life situations.

The participants of the training courses take an examination at the end of the course. Passing the examination entitles the participant to register as a competent auditor in the auditors' registry maintained by the OKKA Foundation and of which the schools needing an external auditor can choose whom to hire. The auditors in the registry form the network of auditors and the OKKA Foundation monitors continuously their competence and provides them with additional training, information and knowledge. The rules and requirements concerning auditors and their auditing activities are included in the rules and regulations of the Certification Body.

A very important content of the training courses has been the contribution required from the participants to the development of the self-assessment tool and the auditing system. The participants' role in setting the levels for the environmental criteria has been especially valuable. Thorough knowledge of the reality in schools and their environmental performance was needed for this work and the teachers participating in the courses were naturally experts in this. Another important input from the participants was the experience gained during the mock audits. This helped also to finalise the Auditors' Guide.

The training courses of auditors were also organized in various parts of the country to get a wide geographical coverage and to provide auditors near schools. Contrary to the environmental training courses, the participants of the training courses of auditors came mostly from vocational educational establishments. Less than one third of the participants came from schools for general education. The training courses have gained much interest and it is anticipated that in the longer run more teachers have trained to perform audits. All training courses of auditors have been given in Finnish.

Comments

The objective of the task 3 was to establish a nation-wide network of environmental auditors with knowledge of educational establishments and the public sector and who can easily complement their qualification as EMAS verifiers. For this purpose, five training courses were planned to provide teachers and other personnel of schools the necessary knowledge and skills for auditing and to recruit potential auditors. The number of teachers and other staff of schools, municipalities and environmental organisations participating in the training courses of auditors had been estimated in the project plan to be 150.

The training courses of external auditors were started later than planned. The reasons for the late start were the same as for other delays in the project, i.e. the unsolved problems concerning the beneficiary and financing. The five courses have been completed by the end of November 2004. Totally, 107 teachers and other persons from 81 educational establishments and other organisations have participated in the courses, which is less than estimated in the project plan. However, the total number of auditors who have passed the exam and qualified in the auditors' registry is 69, which is 19 persons (38 %) more than was anticipated. The interest towards being an external auditor has been a positive surprise.

On the other hand, the supply of auditors should not be higher than the demand of them. For the time being, there are not so many schools that have reached the stage for external audit and therefore the need of auditors is not very high. This is linked also to the requirements for auditors to maintain their competence that requires of

performing audits. There is a risk that the interest to become a competent auditor is greater than the interest in the environmental work towards the certification. It will be seen in the future, if special actions are needed to avoid this type of situation.

An important remark in the feedback received from the participants of the Auditors' courses is that the courses also supported the work in the participant's own school towards the level of environmental certification. The reason for this was that it was possible during the courses to carry out a self-assessment and to get feedback on the improvement needs by volunteering to be the target school for the mock audits. A strong evidence of this is the fact that all four schools certified by the end of the project attended the Auditor's courses. There has been a strong demand for new courses, and it has been decided that two new Auditor courses will start in the autumn 2005.

It will be seen later, how easy it will be to complement the qualifications to become EMAS verifiers and how many will be interested to do it.

3.8 Step-by-Step Guide to EMAS (Task 4)

The Step-by-Step to EMAS –guide was renamed during the project to better describe its content. The aim of the guide was to assist and help schools first to the Environmental Certification and continue after that towards EMAS Registration. Therefore it was seen that a better name for the guide is “Environmental Certification and EMAS Registration of Educational Establishments”.

The guide contains the Environmental Criteria applying to the educational field, instructions and guidelines for constructing an environmental management system and for the internal audit (self-assessment), description of the certification process, and the comparison of the requirements of the Environmental Certification and the EMAS regulation. The criteria, models and systems, instructions and guidelines were elaborated already in the other tasks before the task 4 began. In this task all previous deliverables and other outputs were put together. In practice this meant a lot of fine-tuning, correcting small errors and slight differences, adjusting all pieces together and other such work, and producing the guide in writing.

Furthermore, the part dealing with the EMAS Regulation and Registration was added. This meant analysing the Regulation and elaborating guidelines on how to apply it in the educational field. In practice the guidelines elaborated are in the form “what is required from a school with the Environmental Certification to reach the EMAS Registration. Detailed guidelines on the work, e.g. carrying out reviews and audits, constructing EMS, etc., needed for EMAS Registration are not given in the guide, because such instructions and guidelines already exist, for example, on the EMAS website.

The guide was sent to the print in September 2004. An English Summary was also produced and sent to the print at the same time. The guide can be ordered from the OKKA Foundation at a moderate price (10 € each + postage). The material is also available in pdf-format on the website of environmental certification (www.koulujaymparisto.fi).



Figure 5. The steps of environmental certification of educational establishments.

Comments

The objective of the task 4 was to provide educational establishments with a tool or a work book that explains how to construct an environmental management system, to evaluate the environmental performance based on the environmental criteria for educational establishments, to apply for the environmental certification applying to educational field, to complete the environmental management system to meet the requirements of EMAS regulation, and to apply for the EMAS registration. The objective was also to produce an effective product for the dissemination of the project results.

The compilation of the Guide was mainly based on the work done in the previous tasks of the project. During the writing of the Guide, many details were finalised to form a well functioning system as a whole. In the actual work, no serious problems were encountered and it is anticipated that the Guide will serve as a good tool for the environmental work in schools and educational establishments. The number of Guides printed, i.e. 1400, is big enough to the needs in the near future. The guide has already been introduced as course material in the teacher training courses, and distributed to teachers and authorities in various occasions.

The English Summary of the Guide is actually more than a summary. It contains basically all issues dealt with in the original Finnish Guide but does not include as many practical guidelines. However, the English Summary gives enough information of the system and issues related to it to give guidance on developing the environmental work in schools and to create national requirement levels for certification. It is also an effective product for dissemination purposes in other EU countries. The number of English copies printed is 400.

4. DISSEMINATION (Task 5)

Dissemination in the project has been quite active. The ENVEDU project is very well known in Finland. Especially after the environmental criteria had been approved, distributed and available on the project's website, interest in the project and results has increased. Environmental training courses and training courses of auditors have served also as a mean to inform of the project and the planned certification system.

Experts, authorities and teachers working on the same subjects in some other EU countries know the project and have shown interest in its results, e.g. in the Netherlands, Germany, Italy, Estonia, Austria, the UK, Spain, Romania, members of ETUCE (*European Trade Union Committee for Education*) and EI (*Education International*). The contacts of the partners' have been used for dissemination purposes as well as the current and former partners in various projects carried out by the beneficiary or in which the beneficiary has been involved in another role.

In general, the dissemination in the project can be divided in two parts: (1) dissemination that contributes to the development/improvement of the methods, tools and guides in the project and (2) dissemination and communication of the project's results. The most valuable for the first type of dissemination have been the training courses arranged in the project. The second type of dissemination and communication requires that results have been achieved. Consequently, this type of dissemination took mostly place later in the project. Therefore, most planned activities of this type were carried out during 2004.

In short, the **general dissemination**, i.e. dissemination that is not connected to any special task except the task 5 (Dissemination), in the project included the following:

- The project was part of a poster campaign that was organised by the OKKA Foundation in winter 2002. In the campaign, posters on environmental education and work were distributed to schools.
- The project has its own www-pages giving information on the project itself and the results achieved.
- In March 2004, the official www-pages of the environmental certification were opened, i.e. www.kouluajymparisto.fi. These pages contain the environmental criteria, instructions and tools for the self-assessment and application of the certificate. Also pdf-versions of the guides produced in the project can be downloaded from the pages.
- The brochure of the project was produced and distributed widely in various occasions.
- The brochure and poster of Environmental Certification were printed in November 2004, and will be distributed widely to Finnish educational establishments. The number of printed copies are: brochure 4000, poster 12 000. The brochure is also available in English (400 copies). This ensures that dissemination will continue after the end of the project. A Swedish version of the brochure is also available.
- The project was presented to and discussed with the Finnish Minister of the Environment in February 2003. The Ministry is an important connection, because it is responsible for the implementation of the EMAS Regulation in Finland.

- The first remarkable dissemination and information occasion for offered to the ENVEDU project by the *Johannesburg Summit* in September 2002. The Finnish National Board of Education was also represented in Johannesburg and took with them information material of ENVEDU project as well. Sustainable development steps at schools were also included in the brochure on the Finnish partnership programme.
- The environmental and audit training organised in the project was an efficient way to inform of the project and to disseminate the results to schools and educational establishments (total of 230 schools and 312 teachers).
- The Trade Union of Education organised a seminar with about 50 participants in January 2003. The ENVEDU project was presented there with two representations of altogether two hours time. Another national event, where the project and its work were presented, was organised by the National Board of Education together with the Trade Union of Education in April 2003.
- The Trade Union for Education informed the *ETUCE (European Trade Union Committee for Education)* and *EI (Education International)* of the ENVEDU project and of the results achieved. Education International is a worldwide labour organisation in educational sector representing 29 million teachers and research workers. In summer 2004, the Trade Union of Education in Finland made a proposal in the EI world congress of developing a global environmental evaluation and certification system for schools and educational establishments. The proposal was accepted by the congress, and will be further developed in co-operation with UNESCO in the framework of UN Decade of Education for Sustainable Development 2005-2014.

The general dissemination activities were more sharing information on the project and its future results with various interest groups and stakeholders. In addition to support and showing interest, the project team did not expect to receive any detailed and exact feedback from these dissemination activities. However, especially at the early stage of the project this type of dissemination is valuable for spreading information and making the project known.

The pre-evaluation phase included the visits to *Austria, Germany and the Netherlands*, in November 2002. The visits offered a great opportunity to European wide dissemination. However, the purpose of the evaluation task was to gather information not so much to spread it. At the pre-evaluation phase, results in the project had not yet received and there was not much to inform of. Therefore, the main focus was in collecting information and knowledge and using them for the benefit of the project. (Pre-evaluation (**Task 1.1**))

Task 1.2 Environmental Criteria includes the first issues related to the substance tasks of the project that are important from the dissemination's point of view, i.e. the Environmental Criteria. HRVAEC and the partners, i.e. Trade Union of Education and the OKKA Foundation, have been actively involved in organising and participating in the following events and actions related to the task 2:

- Information on the environmental criteria was disseminated to "the Curriculum Greening Europe" -project, in which HRVAEC was a partner (*Leonardo da Vinci Programme nro NL/00/B/F/PP/123033*). In this project, there were partner schools from *Germany, the Netherlands, the United Kingdom, Spain, and Romania*.

- The partners from *Germany and the United Kingdom* in the Socrates Comenius project “*SUSDE, Sustainable Development – an educational package for schools*” (Comenius 87265-CP-1-2000-1), coordinated by HRVAEC, were also well informed of the ENVEDU project and its work and results, especially on the environmental criteria.
- In the seminar organised in Hannover 7 to 8 March 2003 about twenty experts and authorities from *Germany, the Netherlands* and Finland were gathered together to change views and experiences, to develop and to create networks for the future relating to environmental and sustainable development in schools. The ENVEDU project was in the central role in the seminar. The seminar was organised together with Zentrum für Erwachsenenbildung Stephansstift. Originally the seminar was planned to take place in the UK, but the results of the Pre-evaluation showed that a seminar in Germany would be more beneficial.
- Handbook of Environmental Education (Ympäristökasvatuksen käsikirja) by Hannele Cantell (ed.) contains a section Planning and assessment in environmental education, which has been written by Laura Manninen (HRVAEC) and Kirsi Verkka (Torpparinmäki School). The book has been published by PS-Kustannus in 2004. The section referred to deals with the environmental criteria developed in the project.
- The environmental training courses served as the most efficient and valuable forum for dissemination and receiving feedback. The main focus in these courses was on the application of the criteria in different schools and on the performance levels for each criterion. The feedback received was very useful for the development of auditing and rewarding of the certificate.
- Information event for the Education department of Helsinki, October 21st 2003. (15 participants)
- Information event for the upper secondary schools of Vantaa, December 9th, 2003. (20 participants)
- Meeting of nature schools, environmental authorities, and environmental educators in the Helsinki region, March 4th 2004, presentation of Envedu-project, criteria and certification. (10 participants)

Dissemination activities in the **task 1.3** cover also other tasks in the project, because the different tasks belong together and the work in them forms the whole certification system. It is not either relevant to describe just one task and its outcome separately. This applies especially on the seminars and workshops in other EU countries. It is only natural that the audience in the seminars want to know not only of the audits but also of the criteria and other activities and results in the project. The dissemination activities that can be mentioned under the task 1.3 cover the following:

- The two ad-hoc working groups set up in the project.
- The seminar and workshop in the Netherlands in June 2004.

For the development of the environmental certification system as a whole, two working groups were set up. The members of the working groups represent expertise on environmental auditing as well as environmental certification (ISO 14001) and registration (EMAS). They also represent environmental and educational authorities, educational establishments and teachers, the Eco Schools system, municipalities, etc. While the contribution of the members of these two groups was very benefiting and

made it possible to find excellent solutions for the very complicated and difficult issues that they handled, the two working groups served also as dissemination forums.

In the seminar and workshop in the Netherlands in June 2004, great interest was shown to the certification system developed in the project. It would have been useful to have more material in English. In the seminar, the whole certification system, including the environmental criteria, training, auditing and certification, was described.

Dissemination of the Auditor's Guide took place mostly in the training courses of auditors. Consequently, more than a hundred educational people know of the various tools and models related to auditing in the certification system for schools and educational establishments. They are also much more familiar with the system than they would be, if they had received information of the system through other means of communication. This type of working enabled also the receipt of valuable contribution from the participants. During the courses, the participants' role was to assess the models and the tools developed for auditing, their applicability in their schools, whether they are understandable, if the required performance levels are too high or low, etc. The course elements were designed in a way that giving and getting feedback, critic and suggestions for improvements were an integral part of each stage of training. The exercise audits carried out at the end of each training course gave a lot of information on the auditing system itself as well as on the desired qualities of auditors in practice. (**task 1.4**)

Dissemination related to training courses (**task 2 Environmental training and task 3 Training of auditors**) can be divided in two parts: (1) dissemination of the training courses through advertising, and (2) dissemination during the courses. All courses have been advertised in the Teachers' Magazine, which is distributed to all teachers and schools and to many other people and organisations in Finland. Some courses have been advertised additionally in other magazines, e.g. *Ympäristökasvatus (Review of Environmental Education)* published by the Finnish Association for Environmental Education (SYKSE). Training courses were also advertised by direct mail and e-mail marketing to teachers and educational establishments. This type of dissemination is not, however, interactive, its contribution can be seen only in the number of participants in the courses. Dissemination during the courses, on the other hand, was very benefiting and useful. This type of dissemination has already been dealt with earlier in this report, e.g. in task 1.4 above.

According to the project proposal, dissemination of the project results and products should also ensure the European-wide coverage aiming at educational authorities, educational establishments and trade unions in EU-countries. Two seminars presenting the results and products of the project were planned. International contacts of the partners were also planned to be used in dissemination. In addition to the dissemination events mentioned in connection with the other tasks, the following dissemination activities are worth mentioning herein (**task 4**)

- Seminar for teachers and researchers of environmental education organised by the Helsinki University, March 19th 2004, launch of the environmental certification and presentation of the Envedu-project. The seminar was organised together with the partners Trade Union of Education and the OKKA Foundation. (140 participants)
- The representative of the Trade Union of Education in Finland took part in Caretakers' 18th International Conference and Youth Forum SCHOOL AND AGENDA 21 in July 2004. The congress was organised in Thessaloniki,

Greece. In the congress, a presentation on the Envedu-project was given. The presentation was also distributed to the head of the congress, Dr. Dina Tamoutseli, and to the chairman of Caretakers, Mr. Cris Leibner for further dissemination.

- The final seminar of the project was organised on 25 November 2004. Dissemination in the seminar focused on the guide "Environmental Certification and EMAS Registration of Educational Establishments", i.e. actually covering the overall project and its results.
- The last international seminar was organised in the educational fair (JOB&ORIENTA) in Verona, Italy, on 26 November 2004. This was a huge fair with over 30000 visitors and hundreds of exhibitors, some of them from outside Italy. Many EU projects were also presented in various stands. The results of the project were presented in the seminar and through a video conference to a similar seminar held at the same time in Genoa (Italy) as well as to many other exhibitors, teachers and students.
- Final seminar of the project "Lohjan koulut ja ympäristö". The project is part of a larger Interreg IIIA project "Ympäristötietoisuuden ja verkostoitumisen lisääminen Suomen ja Viron paikallishallinnossa". Some 15 schools and various local authorities are involved in the project. The Environmental Criteria and the Certification System were presented in the seminar to the audience of over 40 persons.
- Dissemination event for educational establishments in Kuopio (Middle Finland) April, 24th 2004 on the project results. (25 participants)
- Dissemination event for and meeting of Finnish environmental educators in Hämeenlinna (South Finland), September 11th 2004. (100 participants)
- Dissemination event for a network of polytechnics for sustainable development (SUDENET project) in Tampere (South Finland), October 6th 2004, on the results of the project.
- Dissemination event for educational establishments in Oulu (North Finland) September, 25th 2004, on the results of the project. (25 participants)
- Dissemination event for educational establishments in Savonlinna (East Finland), November 4th 2004, on the project results. (20 participants)
- Presentation of the environmental certification of educational establishments to the Sustainable Development work group of the Ministry of Education on November 2nd 2004.
- The representative of the OKKA Foundation was nominated as a member of the education sub-committee of the Finnish National Committee of Sustainable Development. The sub-committee is chaired by the director general of the National Board of Education. Envedu-project and certification system has been presented to the sub-committee.
- Environmental training course for Finnish sports academies, information on the project and products 2002-2004; the criteria and tools developed in the project were used and evaluated in the course. (7 organisations, 100 participants)
- Environmental training course organised by the University of Joensuu (2003), information on the project and products; the criteria and tools developed in the project were used and evaluated in the course. (20 participants)

- The presentation of the project and its results were given in the training events organised by the National Board of Education for teachers of vocational training, e.g.:
 - Environmental branch: Osara (Middle Finland), March 21st 2003
 - Tourism: Helsinki, March 23rd 2004
 - Home economics: Helsinki, May 7th 2004
 - General education: Järvenpää (South Finland) March 4th 2004, Lappeenranta (East Finland) March 25th 2004, National Meeting of Teachers in General Education, Helsinki April 19th and 20th 2004
- The environmental criteria developed in the Envedu project were used as the basis for local guidelines and evaluation system for schools introduced by Helsinki city and Oulu city educational authorities.
- National Education Fair in Helsinki, January 23rd and 24th 2004: Envedu stand, distribution of material, 4000 visitors.
- National Fair of Environmental Technology and Services, September 15th – 17th 2004: Envedu stand, distribution of material, 7000 visitors.
- Environmental handbook for Finnish Folk High Schools (published in autumn 2004): article of the Envedu-project, criteria and certification by Erkkka Laininen (the OKKA Foundation).
- Delivery of the environmental certificate to Pääntäne comprehensive school in the Middle Finland; dissemination of information on the project to local authorities, stakeholders and newspapers.
- Delivery of the environmental certificate to Ala-Malmi comprehensive school in Helsinki; dissemination of information on the project to local authorities, stakeholders and newspapers.

Comments

The objectives of the task 5 were to support the achievement of the project targets (creation of the auditor network and participation of the municipal authorities and decision makers), to get feedback from international experts about the intermediate products of the project during the development phase, and to ensure the European-wide dissemination of the project results and product. This was planned to be achieved through:

- Articles and advertisements in the Teachers' Magazine;
- Designing and opening the www-pages;
- Brochures;
- Ten national information events;
- Two workshops;
- Two seminars close to the end of the project.

National dissemination has been efficient. The project and the certification system are clearly well known in Finland. International dissemination has somewhat suffered from the lack of material in English. The provisional budget for the project does not contain money for translations. For dissemination purposes, all materials should be translated in English and in Swedish.

The project has produced several articles and advertisements in the Teachers' Magazine (circulation 100 000 copies), opened the project's website as well as the website for the Environmental Certification of Educational Establishments. Up-dating the websites has not been extremely good due to the lack of time. However, the certification's website is better maintained and there is a link to that website in the project's website. A brochure of the project was produced in the autumn 2002. It was updated during the project and used especially in international dissemination. Later, a brochure concentrating more in the certification system was elaborated and printed. This brochure will be used also after the project to inform of the system.

The national information events were mainly the task of the project partners, the OKKA Foundation and the Trade Union of Education in Finland. The representatives of these two organisations organised and visited several different events in various parts of Finland. Altogether the number of national dissemination events is well above the planned ten.

Feedback from international experts has been received during the seminars and various discussions. It has been useful to learn about projects carried out or being carried out in other countries and their outcomes as well as experiences in different schools. Written, detailed and thorough comments are difficult to receive, because people do not have time for this type of exercises nowadays. However, the contacts have been useful in developing the project results to be applicable and transferable in other European countries as far as possible. The project has also been contacted by REC Estonia (The Regional Environmental Center for Central and Eastern Europe) from Tallinn. REC Estonia told that they are very impressed by the Envedu project idea and project results and would like to start a similar project in Estonia or even in all Baltic States and Russia.

5. PROJECT MANAGEMENT AND REPORTING (Task 6)

The project management was in practice divided in two parts: the substance and the administrative activities. This division worked well, because enough overlapping of these two parts was provided and a continuous interaction and communication maintained. There were no changes in the management during the project and no problems encountered.

Having over 160 partners in the project made the management task somewhat complicated and burdensome. In fact, the beneficiary was hoping for a while that signing separate partner agreements with all school partners would not be required. However, this turned out to be wishful thinking and in addition to the two main partner agreements partner agreements were signed with 161 schools. Requirement of an agreement was not suitable for all schools whose teachers attended the training courses. Therefore, the number of schools and teachers participating in training is higher than the number of agreements. Quite a lot of work time had to be allocated to finalizing of the partner agreements with schools and even more time to collect reports from personnel costs incurred to the school partners in the project. In the project proposal it was estimated that the personnel costs of school partners would be 312.480 euros (Form F04). However, the total sum to be reported is only about 220.466,80 euros. In reality, the personnel costs of partner schools in the project is much higher than either of these figures, but reporting the real costs was too difficult for many schools.

Reporting in the project was not as frequent as it should have been. The reason for this was the discussion with the Commission on the problematic issues referred to earlier in this report. The issues stayed unsolved so long and the discussions took so much time that there did not seem to have time and any stable situation for reporting. Therefore, only two progress reports were produced. The latter of these covered the project activities from the beginning to the end of June 2004, i.e. almost the whole project, and gave the Commission a good picture and necessary facts to evaluate the progress in the project. The Interim Report was concluded in January 2004, i.e. later than originally planned. The reasons for the late delivery of the report are the same ones referred to already in other parts of the report.

The task of producing of the Final Financial Report required a lot of work. The accounting software programmes in common use nowadays do not support this type of very detailed reporting. It also seems that all details required in the forms are not necessary to verify the costs. Also distinguishing between some cost categories, e.g. Consumable materials, Other costs, External assistance and Overheads, that seems to be very important to the Commission is actually very for the project staff even during the project but especially when writing the project proposal. This also increases the workload in the project and requires clarifications even after the project. The project management cannot always be sure whether the cost in question is eligible and in which cost category, which makes also planning in the project more difficult.

6. EVALUATION AND CONCLUSIONS

In general, the development process in the project **progressed** as planned. However, some tasks were more difficult than anticipated and this affected in some results and deliverables of the project. The approval of the environmental criteria took longer than expected. This was due to the development of the new core curricula (guidelines) by the National Board of Education. Because the environmental criteria for schools and educational establishments need to be in line with these guidelines, the situation resulted in delaying the approval of the environmental criteria. The environmental work in the Finnish schools was not at the level it was believed to be on the basis of the information received. This means that more environmental training is needed and that only few schools are at the level that allows them to apply for the environmental certificate. Two further issues that have delayed the work in the project are the questions of the beneficiary that remained unsolved for a long period of time and of the status of educational establishments that is still unsolved.

The **project management** did not require any changes and no problems were encountered in this respect. There were two **main partners** in the project and these partners were involved already in the planning phase of the project. The cooperation between the beneficiary and these two partners was efficient, constructive and without any problems. Both of these partners had their own responsibilities that were agreed on in the partnership agreements. The partners were active in their participation in the project. An important value of these two partners was seen in the final year of the project, when the certification system was finalised to function as an independent system. The OKKA Foundation took the responsibility of the whole certification system and of organising the necessary finance for it in the future. The Trade Union of Education concentrated more on the dissemination tasks and organising events to spread information of the Certification system and body. The contacts of these partners were also valuable throughout the project.

The **educational establishment partners**, which the project had several, contributed in the work during the training courses. The most difficult part in respect of these partners was the signing of the partnership agreements and receiving the required reports. Because there were so many schools participating, there were many agreements as well. All schools, whose teachers attend the courses, were not willing to sign a contract. This had some effects on the budget of the project.

The **results** of the project correspond to a great extent to the anticipated deliverables. The only target that was not reached is the number of schools having an environmental certificate. Environmental work in schools need more time to reach the level required for certification.

The certification system can be **reproduced** in or **transferred** to other countries and in/to some other areas requiring less strenuous and less expensive certification system than the current commercial systems. Creating, developing and setting up the certification system does not require huge investments. By reproducing the system as far as possible and by limiting modifications maybe required by national educational systems or curricula to the minimum, other countries would save the money now spent on the development work. Limiting factors can appear due differences in educational systems, curricula and course syllabi in different countries and at different level of education. At the moment, the environmental criteria developed in the project are not applicable in higher education in Finland. On this basis, it is only fair also to

assume that the **economic feasibility** of the project and the certification system developed is very high.

The **target groups** of the project results are schools for general education and educational establishments for vocational training (2nd level education). The feedback received, shows that the target groups are very satisfied with the project results. These types of schools have to comply with the core curricula (guidelines) given by the National Board of education. The core curricula include requirements for incorporating sustainable development in teaching and learning. This work has just started in schools and since the environmental criteria developed in the project are in line with these guidelines, they can greatly help and assist schools in their work.

Benefits to the environment of the environmental certification of schools and educational establishments can be seen for the most part after several years. The environmental criteria include requirements for management, teaching and learning and maintenance activities. Some environmental benefits can naturally be received by better maintenance of schools, e.g. less waste, lower consumption of energy and water, decrease in the use of materials and more environmental conscious purchasing practices. Experience has shown that in many organisations improvements have been achieved when the environmental work has become systematic and the results have been measured, monitored and analysed. The criteria concerning the management of educational establishments guide schools towards well-organised and systematic environmental work. They also make the managements of educational establishments to see the importance of the commitment of the management and of allocation of resources to environmental work.

The **innovative** and most powerful sector in this respect is the teaching. Another special feature of the system worth mentioning is the auditing system that is especially tailored for educational establishments. However, the environmental results of the system can be seen after the children have grown up in their behaviour, in their consumption and buying habits, in their relation to nature, etc. At this stage, it can be said that the pupils in general education are concerned of the environment and therefore interested in the work improving the environmental performance in their school as well as in their private life. The attitude towards environmental issues among students in vocational training is not very remarkable. This may be due to the age of the students and due to the many other things they are interested and have to learn.

It can be said that the project results, i.e. the criteria, tools and guides, improve the quality of teaching. The feedback received from schools shows that these results together with the guidelines (core curriculum) given by the National Board of Education are of great assistance to schools in developing their environmental education and their environmental performance in other every day activities. The criteria, tools and guides also help the schools in implementing the guidelines of the National Board of Education.

The **costs** of the system for schools have been an issue on which great attention has been paid. One of the main requirements for the development of the system has been since the beginning that the system must not be expensive for schools. Developing environment performance of a school requires work and creates thus personnel costs. This cannot be avoided. However, the main concern of schools is the costs of external auditing and applying and maintaining the certificate. In the Environmental Certification, the awarding of the certificate is free of charge, because the financing of

the operation of the system is received from other sources. The schools must bear the costs of external audits. At this stage, it is estimated that the costs of external audits will vary from 500 euros to 1500 euros, depending of the school, its size and numbers of functions, etc. For schools of general education, the fee will be lower than for the schools of vocational education. The costs of EMAS Registration and ISO Certification with external audits, maintaining and annual fees, etc. are much higher. For example, in Finland for an organisation of 10 to 49 employees operating only in location, the registration fee is 1100 euros plus the annual fee of 250 euros. This does not cover the costs of external audits, which are carried out by commercial auditors with quite high fees. Furthermore, many vocational schools are much bigger and operate in several locations. This increases the costs greatly. After the end of the project, National Board of Education decided that in 2005 vocational educational establishments can apply for financial support to auditing costs.

As to the costs of the project compared to the results, it is difficult to say whether the same results should have been received with lower costs or whether results would have been much better, if more money could have been used. The project, as is usual with this type of projects, required a lot of personnel work-time and resulted in high personnel costs. If more resources had been available for consulting and tutoring of schools, the number of certified schools would have been higher at the end of the project. The need for more effective consulting and tutoring is, however, difficult to estimate at the project design phase. One has to remember also that a lot of work was done in the schools and all costs of this work are not even reported and that the results of all this work can be mainly seen in the future.

Effectiveness of **dissemination** activities has been very good especially in training courses and ad hoc working groups. Effectiveness of national dissemination can also be seen in the high number of participants in the training courses. Great interest has been shown to the project in international events and seminars organised during the project. However, it is fair to assume that the results of international dissemination can be seen after some time in the future, if there will be any. It takes time to develop environmental work in schools to the level required by certification (the level of environmental performance required by certification should be high enough to make difference with good performers and lower level performers). A message received from many countries was that environmental work and performance is much higher in the Nordic countries than in several other EU countries and that therefore same results cannot be expected. It can be argued naturally, whether this statement is true or just assumption. If it is only assumption, more efforts should be directed to make these countries realize their potential in the environmental work in schools.

The project results have no special **job creation** potentials. However, the project creates a new group of experts, i.e. environmental auditors of schools. The same auditors can be used in some areas in other municipal organisations as well. Since the work cannot be full time and people cannot earn their living in this profession, the influence in the job market is null. However, the significance of knowledge and skills related to sustainable development is constantly increasing as a part of the competence of professionals in the educational sector. The teachers and other personnel of the educational establishments that take part in the project benefit from their developed competence and their position in the labour market will improve. Therefore, it can be said that the indirect employment implications of the project are

- Improvement of the competitiveness of educational establishments in terms of better environmental image and new course or training opportunities

- The auditor network established in the project stimulates co-operation between educational establishments and municipal authorities thus providing new opportunities for joint-initiatives and projects

In addition, the development of training and education related to sustainable development and environmental management answers the need of the work life for labour with skills and knowledge in environmental issues. This improves the position of the students in the labour market.

The Environmental Certification of Educational Establishments is an independent system. Its value is in the fact that it has been tailored to educational establishments taking into account their needs. The greatest difficulty in many organisations in applying the **EMAS** Scheme and the ISO 14001 standard often is identifying the (significant) environmental aspects and impacts and elaborating an environmental programme with objectives and targets and environmental indicators. In many industrial organisations, the environmental work can easily be focused on the energy and water consumption and waste generation in the process. There are a lot of information and facts available for the work. However, there are other areas where identifying the environmental aspects is not that simple. These economic areas need further guidance and assistance to achieve improvements in their environmental performance. One of these areas is the education field, where the main concern is in the indirect environmental impacts and the EMAS Regulation and the ISO 14001 standard do not provide any help. At least in Finland, there are also other areas for which special environmental evaluation systems have been developed, e.g. agriculture/farms, hotels and offices. These systems also take into account the special features needed in these fields and give more detailed guidance on the environmental aspects and impacts relevant to the field. Therefore, it is only natural that the Environmental Certification of Educational Establishments has been welcomed. The system helps the schools to continue their environmental work and improve their environmental performance so that in one day they might be ready to apply for EMAS Registration, provided that they have been allocated the financial resources for this. However, it is important to emphasize that there is no legal, administrative, functional or any other type of link between the Environmental Certification of Schools and the EMAS Scheme. In the project, it has been noted that it would be useful to develop the EMAS Scheme towards the Environmental Certification system and other tailored environmental evaluation systems, i.e. the EMAS Scheme could include separate "protocols" or "supplements" to deal with various items and areas.