

**SIXTH FRAMEWORK PROGRAMME- SPECIFIC SUPPORT
ACTION**



Contract no.: 510617

Title: Development of environmental guidelines for the region of Western
Balkans

Final Activity Report

Period covered: 1/1/2005-31/12/2007 Date of preparation: 10/02/2008

Start date of the project: 01/01/2005 Duration: 36 months

Sanopoulos Dimitrios
Centre for Research and Technology Hellas

Project Execution

1. Project Objectives

WEB-ENV project was funded by the European Commission 6th Framework Programme (Specific Support Action) and its duration was 36 months. The main objective of WEB-ENV project was the development of general environmental guidelines concerning the region of Western Balkan Countries, with a particular focus on water resources, renewable energy and use of recycled materials. Throughout the project's lifetime, the consortium was comprised of Research Institutions, Universities, environmental organisations from Greece, Croatia, Serbia, Bosnia & Herzegovina and Albania. All contractors worked towards the achievement of the same objectives, even though the responsibilities of each one differed.

In specific, the WEB-ENV project was developed in an effort to examine the Western Balkan's ecosystem for major environmental problems, propose techniques for their remediation and develop environmental guidelines for the management of the particular problems. The first step towards the completion of the project objectives was the implementation of an extended **mapping exercise** (WP 2), during the first year (2005), in each country for the identification and evaluation of important environmental problems of the Western Balkan region. The outcomes of the mapping exercise intended to produce an **environmental map** where the locations of specific problems are depicted and detailed information about each environmental problem is provided.

Afterwards, the consortium moved on to the preparation of a report containing possible remediation technologies (WP3) and the preparation of an environmental legislation report (WP5). The **report of the remediation technologies** consists of technologies capable to offer solutions to the identified significant environmental problems. The report, at the same time, evaluates the aforementioned technologies using qualitative criteria, such as innovative character, low cost, and effectiveness. The **legislation report** reviews the current environmental policies that are followed in each WB countries. The results of the mapping exercise were also taken into account during the preparation of the legislation report.

Having the above work completed on time, the consortium focused on preparing two important reports towards the successful completion of the project. These two reports were: the "**Preliminary feasibility report**" (WP4) which proposed the optimum innovative technology for one environmental problem per each country and the "**Guidelines Report**" (WP6), a generalised approach for the management of environmental problems.

Accordingly, the main results achieved throughout the first implementation year (01/01/2005 – 31/12/2005) are summarized below:

- Implementation of a mapping exercise identifying major environmental problems in the Western Balkan regions
- Following the mapping exercise, an environmental map was created depicting hot-spots. The map is accessible via the WEB-ENV portal: <http://webenv.masfak.ni.ac.yu/>
- Development of the WEB-ENV portal
- Formation of National Expert Groups (NEG): All partners formed a National Expert Group, according to their contractual obligations. Therefore four NEGs were formed during the first semester of 2005, one per each participating WB country.
- Organisation of the following events:
 - Kick off meeting in Thessaloniki, April 2005

WEB-ENV project-Final Activity Report

- Organisation of the second Steering Group meeting in Dubrovnik, June 2005
- Organisation of a local workshop in Zagreb by FSB-UZ, September 2005 aiming at the presentation of WEB-ENV project
- Organisation of a local workshop in Bosnia & Herzegovina by HEIS, November 2005 aiming at the presentation of WEB-ENV project
- Three presentations of the project at international fora:
 - (a) 3rd Dubrovnik Conference on Sustainable Development of Energy, Water and Environment Systems 5-10 June 2005, Dubrovnik
 - (b) 13th International Symposium of MESAEP on Environmental Pollution and its Impact on Life in the Mediterranean Region October 8-12, 2005 Thessaloniki – Greece
 - (c) Conference: “*New approaches for RTD cooperation in the European Research Area: regional and European wide cooperation with Southeast Europe*” organised by the Ministry of Science, Education and Sports of the Republic of Croatia on behalf of Southeast European ERA-NET (SEE-ERA.NET), 15-16 December 2005, Zagreb

During the second project implementation year, the major achievements are briefly described as follows:

- The “Review Report on the Identification of Selected Environmental Technologies” was carried out by the Task leader of WP3, the Regional Environmental Center for Central and Eastern Europe, Country Office Serbia (REC CO SERBIA)
- The “Legislation Review Report” (WP5) was prepared by the Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb
- Two local meetings (WP8) were organised during the second reporting period, one in Serbia (Kanjiza, 14-15.3.2006) and another one in Croatia (Solta Island, 13-15.10.2006)
- Two more Steering Committee meetings were organized during the second reporting period. The third SC meeting was organized on 4th May 2006 in Belgrade, Serbia and the fourth SC meeting on 29 September 2006 in Hvar island, Croatia

Finally, during the third project implementation year, the major achievements are briefly described as follows:

- Preparation of four preliminary feasibility studies (WP4)
- Development of “Environmental Guidelines” (WP6)
- Publication of a “Portal Guide” (WP7)
- Organization of the following local workshops:
 - 2nd Local Meeting in Bosnia and Herzegovina (D8.6)
 - 2nd Local Meeting in Serbia (D8.7)
 - 1st Local Meeting in Albania (D8.4)
 - Dissemination Event in Dubrovnik (D8.9)
 - Presentation of WEB-ENV project at the 10th International Conference on Environmental Science and Technology, Kos Island 2007
 - Presentation of WEB-ENV project at the 14th International Symposium on Environmental Pollution and its Impact on Life in the Mediterranean Region, Sevilla 2007

WEB-ENV project-Final Activity Report

- Two more Steering Committee meetings were organised. The 5th SC meeting took place on April 2007 in Sarajevo and the 6th SC meeting in Zagreb on October 2007

2. Contractors involved

Partic. Role*	Partic. No.	Participant name	Participant short name	Country	Date enter project**	Date exit project**
CO	1	Centre for Research and Technology Hellas	CERTH	Greece	Month 1	Month 36
CR	2	Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb	FSB-UZ	Croatia	Month 1	Month 36
CR	3	Hydro-Engineering Institute Sarajevo	HEIS	Bosnia & Herzegovina	Month 1	Month 36
CR	4	University of Nis, Mechanical Engineering Faculty	MEF	Serbia & Montenegro	Month 1	Month 36
CR	5	Regional Environmental Center and Eastern Europe Country Office and Serbia and Montenegro	REC CO S&M	Serbia & Montenegro	Month 1	Month 36
CR	6	Geographic Studies Centere	GSC	Albania	Month 1	Month 24
CR	7	Aristotle University of Thessaloniki	AUTH	Greece	Month 25	Month 36

The coordinator of the project is the Centre for Research and Technology-Hellas and, as such, it managed and assured the smooth implementation of the project and the timely delivery of quality results. All partners contributed actively, not only to the establishment and implementation of the consortium's management structure procedures, but to fulfill all contractual obligations towards the achievement of stated goals.

However, few months before the end of the project, the consortium faced a challenge when the Albanian partner (GSC) informed the coordinator that due to institutional reformations initiated by the newly elected Albanian government, GSC had to shut down its operations and was no longer able to participate in the project.

The consortium reacted promptly and CERTH, as coordinator, initiated the procedure to ask for an amendment of the contract by terminating GSC's participation to the project and transferring the obligations to Aristotle University of Thessaloniki (AUTH). The reason for selecting AUTH as successor of GSC was that AUTH was already active in the project, acting as subcontractor of GSC. AUTH initially took on the responsibility to prepare the feasibility study for Albania. However, after the acceptance of the consortium's request, AUTH also took on the responsibility to organize two local workshops in Albania and involved in the enrichment of the WEB-ENV portal. One out of the two planned workshops was organised since the acceptance of the amendment was made known to the consortium on 21st of December. Therefore, there was no time for the preparation of two workshops.

3. Work performed

Throughout the lifetime of the project, all partners worked towards fulfilling the contractual obligations, achieving quality results and ensuring maximum visibility for the project in national, regional and European level. The WEB-ENV project was organised in 8 Work Packages. The first WP covered all management activities and the next seven the supporting ones.

For the project management needs (WP1), three bodies were established: the Steering Committee, the Secretariat and the National Expert Groups. During the duration of the project, 6 Steering Committee meetings were carried out aiming at establishing the management procedural structures and discussing various issues related to the project implementation. The Secretariat, part of the coordinator's team, ensured the day-to-day management and control. Regarding the establishment of National Expert Groups, all WB countries that participated in project formed their NEG since the beginning of the project. The synthesis of each NEG may be found at the WEB-ENV portal through the following link: <http://webenv.masfak.ni.ac.yu/sitegenius/topic.php?id=295>.

During the first year, the activities of the consortium began by initiating the mapping exercise (WP2) for the identification of the most important environmental problems of the Western Balkan Countries. GSC undertook the mapping exercise in Albania, FSB-UZ in Croatia, HEIS in Bosnia and Herzegovina, REC CO SCG in Serbia and Montenegro (at that moment Serbia and Montenegro was one country), and MEF in FYROM, since there is no project partner from this Country. The methodology for the mapping exercise comprised of in situ visits in environmental aggravated areas, contracts with ecological, governmental, academic and industrial organizations for the collection of data (literature, publications etc.) related to the major environmental problems and filling in the data in the agreed format between project partners.

Taking into account the results of the mapping exercise, the consortium developed an environmental map (D2.2) where all serious environmental problems of the region may be found. On the environmental map, there are activated links on the location that a specific problem exists, and lead to more detailed information about it. <http://webenv.masfak.ni.ac.yu/webenv/index.php> leads directly to the environmental map.

Additionally, the WEB-ENV portal (WP7) (<http://webenv.masfak.ni.ac.yu/>) was set up and it was operational since the first months of the project. The leading partner of this WP was MEF. MEF's greatest challenge in website design and development was to enable collaboration in collection of data necessary for generation of environmental maps from multiple, geographically dispersed locations. For this purpose, user-friendly tools and interfaces were used, in order to enable the system to be usable by people with only basic computer and Internet skills.

Furthermore, the consortium proceeded in the organization of two local workshops (WP8) in Croatia and in Bosnia & Herzegovina. The scope of the workshops was to introduce WEB-ENV project to stakeholders of the participating countries (industry, universities, research institutes, national and local government representatives). Additionally, an effort was made to make the project known internationally. For this reason, the consortium took part in three international conferences specialized in environmental issues and presented the project.

During the second period, one of the accomplishments of the consortium was the identification of certain remediation technologies (WP3) capable to offer solutions to the significant environmental problems in local and regional level. For the identification of the technologies, the following information sources were used: Technical literature, publications, technical and statistical data and contacts with organisations possessing know-how.

As soon as the technologies were identified, the consortium moved on to their evaluation regarding their appropriateness on selected environmental problems. The evaluation was based on qualitative criteria, such as innovative character, low cost, effectiveness etc.

A second objective of the second year was the formation of a legislation review report (WP5). The report aimed at studying the current situation concerning the existing environmental legislation in the Western Balkan (WB) countries: Albania, Bosnia and Herzegovina (B&H), Croatia, FYR of Macedonia, and Serbia and Montenegro.

The lengthy report was an elaboration of the General and Sectoral policies of each of the WB country. The General policy examines the general legislation: the constitutional provisions in relation to the environmental protection, short and long-term environmental acts and strategies, as well as the alignment with the EU environmental legislation. The Sectoral policy relates to the gathering, transferring, reporting, and the public access to the data concerning the environment and inspects more in depth the waste and water management in each WB country.

One important outcome of this legislation review is that all WB countries presented in the report, try to comply their environmental policies in accordance with the E.U. environmental legislation such as the E.U. Water Initiative, the Commitment towards the Millennium Development Goals and the Action Plan for R&D Cooperation between E.U. and the Balkan Countries.

In addition to the above efforts, the consortium and MEF in particular, continued the further development of the portal in terms of content and structure (WP7). Portal statistic tools (google analytics) were used for tracking visitors and content management system was implemented for collection and publishing.

Regarding WP8 (awareness campaign), two more local workshops were organised; one in Serbia and one in Croatia. The workshop in Serbia took place in March 14,15 2006 in Kanjiza and the workshop in Croatia (2nd in Croatia) was organised on Šolta island, in October 2006.

At the final period of the project (2007), the consortium prepared four feasibility studies (WP4), one for each participating WB country. Each study sets out the environmental problem, investigates the pollution sources, presents the best available and best applicable techniques and finishes by recommending corrective actions to be taken.

Studies were undertaken by the following partners:

- Elbasani Case – Aristotle University of Thessaloniki (AUTH)
- Tuzla Case – Hydro Engineering Institute of Sarajevo (HEIS)
- Island of KrK Case – Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb (FSB-UZ)
- Mačva region Case – Regional Environmental Center (REC) CO Serbia

REC CO Serbia also carried out the synthesis of the preliminary feasibility studies prepared by the project partners.

Having the feasibility studies ready, the consortium moved on to the preparation of another significant objective of the project; the development of “Environmental Guidelines” (WP6). The Guidelines are produced based on the outcome of previous workpackages of the project. Specifically, mapping exercise, identification of remediation technologies, feasibility studies and legislation review were taken into account.

The report initially brings up to speed the reader regarding the achievements so far and then proposes recommendations for further action. The recommendations specifically are:

- 1) Development of an integrated approach

WEB-ENV project-Final Activity Report

- 2) Continue efforts in harmonization with environmental EU Acquis and enforcement of legislation
- 3) Foster open markets
- 4) Encourage enabling policy frameworks to optimize the role and contribution of business in addressing environmental challenges in Western Balkans, leading to technological innovation
- 5). Design and implementation of Research and Development programs at the national and regional levels
- 6) Foster innovation taking into account a life-cycle approach
- 7) Policies to be designed in order to promote innovation and facilitate the spread of innovative approaches and related capacity building and sharing good practice among the countries of the region.
- 8) Encourage public participation processes with civil society engagement and NGOs collaboration.
- 9) Encourage voluntary approaches and partnerships, leading to higher take up of voluntary legislations (EMAS, ISO)
- 10) Pursue case-by-case analysis
- 11) Address the global and trans-boundary dimension of environmental problems/challenges in WB in the local and regional/transnational context

Furthermore, at the WEB-ENV portal, a new searchable database was implemented. The areas covered are: governmental organizations with environmental responsibilities, governmental organizations with environmental responsibilities, international funding organizations, research institutes and academic organizations, ecological organizations and initiatives. The content is collected from various sources (CORDIS FP6 Projects, see-science.masfak.ni.ac.yu portal, REC online databases, other web sites) and afterwards is entered in the Content Management System (CMS) software.

In order to achieve, a better visibility of the portal, the consortium prepared a portal guide which firstly provides a brief overview of the project and then explains the main parts of the site.

Furthermore, for the promotion of the project 1000 leaflets, 600 posters and 500 portal guides were produced at the last year.

The local workshops that were organised in 2007 were:

- 2nd Local Meeting in Bosnia and Herzegovina (D8.6) – Organized by HEIS
- 2nd Local Meeting in Serbia (D8.7) – Organized by MEF
- 1st Local Meeting in Albania (D8.4) – Organized by AUTH

Additionally, one regional meeting was organized as side-event of the 4th Dubrovnik Conference on Sustainable Development of Energy Water and Environment Systems in June 2007 and two presentations of the project were given at a) the 10th International Conference on Environmental Science and Technology, in Kos Island, in September 2007 and b) the 14th International Symposium on Environmental Pollution and its Impact on Life in the Mediterranean Region, in Sevilla, in October 2007.

4. Impact

Years of regional conflicts in the Western Balkan area has caused various problems in the region including severe damages in the environment. However, national administrations of the countries have concentrated their efforts in the reconstruction of the region and have left the environment seriously neglected.

WEB-ENV was a project that focused on the environmental situation in the area and attempted to get environmental concerns higher in the post-war agenda.

The work that has been carried out by the members of the consortium covers a wide range of key issues for the environmental restoration.

The mapping exercise that was carried out during the early steps of the project was an attempt to create a clear image of the current environmental situation. As a result of the mapping exercise, an environmental map was produced at which hot-spots are depicted. The environmental map uses a sophisticated technique which makes the categorization of environmental problems possible with criteria such as the geographic area, type of pollution, seriousness of the problem. The map which is easily accessible from the WEB-ENV project may be useful for further and deepen investigation of any environmental problem shown on the map.

An investigation similar to the above was undertaken by the consortium which concentrated on four specific environmental problems, one per each Western Balkan country. This gave the opportunity for four profound studies which not only described the problems in detail but proposed the best remediation technique for each case. The proposed techniques were selected taking into account criteria such as efficiency, innovation and low-cost implementation therefore local authorities may easily use these studies as a complete preliminary guide towards the environment's restoration of the specific areas.

The project also focused on the legal aspect of the problem. With an extensive research, the consortium prepared reports describing the current environmental legislation in each participating Western Balkan country and the legal framework in the EU. This research was conducted in an effort to harmonize the national laws with the EU norms and approaches so these reports are a useful guide for national decision makers.

Towards the completion of the project and taking into account all work previously accomplished, the consortium prepared a list of recommendations which could promote closer transnational relations and regional cooperation towards a common management of environmental problems.

Nevertheless, all work achieved would be meaningless without its proper promotion. For this reason, the consortium organized various local workshops and presented the outcomes of the project at various international forums. Key players in environment policy were invited and participated in the workshops, in a consortium's effort not only to make the project and its achievements known but also to encourage governmental mechanisms for actions towards environmental problems.

In conclusion, WEB-ENV project contributes with its achievements towards the regional cooperation among Western Balkan countries towards a common environmental policy and if its recommendations are taken up by decision makers, it may assist for a quicker convergence with the E.U. environmental standards.