

FEASIBILITY STUDY FOR THE GREEN PACK IN CROATIA

Project report, July 2011



REGIONAL ENVIRONMENTAL CENTER

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LIST OF ABBREVIATIONS

• BAT – Best available techniques	• MSES - Ministry of Science, Education and Sport of Croatia
• CO – Carbon oxide	• NEPC - Network of Educational Policy Centers
• CroNEN – Croatian National Ecological Network	• NGO - Non-governmental organisation
• CR-ROM – Compact disc	• NGPTF - National Green Pack Task Force
• DVD – Digital video disc	• NO _x – mono-nitrogen oxides
• EE - Environmental Education	• REC - Regional Environmental Center for Central and Eastern Europe
• ENSI – Environment and School Initiatives	• PIT - Project Implementation Team
• ESD - Education for Sustainable Development	• PM – Project Management
• ESD Partnership Initiative project (ESdPI)	• PM10 – Particulate matter up to 10 micrometers in size
• ETTA - Education and Teacher Training Agency	• RES – Renewable energy sources
• EU – European Union	• SD - Sustainable development
• FEE – Foundation for Environmental Education	• SEE – South East Europe
• GLOBE - Global Learning and Observations to Benefit the Environment	• SEMEP - South East Mediterranean Sea Project
• GDP – Gross Domestic Product	• SO ₂ – Sulphur dioxide
• GP - Green Pack	• UN – United Nations
• IPPC – Integrated Pollution Prevention and Control	• UNESCO – United Nations Educational, Scientific and Cultural Organisation
• ISO – International Standardisation Organisation	
• MEPPPC - Ministry of Environmental Protection, Physical Planning and Construction of Croatia	

Report summary

The project "Feasibility Study for the Green Pack in Croatia" represented the first stage of introducing the multidisciplinary educational package under the name of Green Pack (GP) into the Croatian school system. The feasibility study assessed the needs in the field of environmental education (EE) and education for sustainable development (ESD) in Croatia. During the project, experts of the Regional Environmental Center for Central and Eastern Europe (REC) analysed the local challenges and conditions, and met with local partners and stakeholders, including national and local institutions and organisations that can play a significant role in the subsequent phases of GP development. Preliminary plans as well as the structure and content of the GP were defined, with an aim to harmonise the product with national curricula and educational standards. An analysis of the existing school resources helped to determine the format and elements of the final product. Also, the feasibility study defined the costs which are expected to occur as "technical expenses" as well as for capacity building of the teachers to use the GP material. Options for funding the estimated expenses of the next phases were investigated as well.

The **analysis of local challenges and conditions**, both environmental and economic, showed that the state of the Croatian environment is conditioned by the overall development of the country in the last 2 decades - characterized by consequences of the war, transitional economy processes, gradual introduction of European standards as part of the European Union (EU) accession. During the war, economic activities have declined and consequences of the war on the environment are still being felt (more than 1000 sq. km of territory still contains landmines), migration of the rural population to urban areas is still present and consequent spreading of urban areas and transport infrastructure. However, as a whole, human induced pressures on the Croatian environment do not exceed critical limits. From administrative and institutional point of view, Croatia's environmental sector is now progressing well towards EU accession. Although environment is not considered a development priority of Croatia, the negotiations on Chapter 27 - Environment were successfully closed in December 2010.

Analysis of education system confirmed that in elementary or secondary education there is no separate subject called *environment* or *sustainable development*, although a number of national and international EE projects has been implemented under coordination or supervision/approval of the Education and Teacher Training Agency (ETTA), mainly on-the-job training of teachers, conferences, etc.), but no educational materials have been produced from these projects yet, that could be used further in classroom as teaching material. The National Framework Curriculum is a guidance to schools in the development of their own programs, and there is space to incorporate GP through the cross-subject approach into the curriculum, in the frame of the cross-subject called "Health, safety and environment", both in primary and secondary schools. There are/were quite some **projects of ESD relevance** carried out for the benefit of Croatian students and/or teachers, however none of them targets the teacher-student population in its entirety or in sufficient percentage to make a serious difference in terms of ESD, and none of them produced a comprehensive multidisciplinary teaching material that has entered the school curriculum.

After the desk-research and analysis, a line of **consultation events** was organised (17 meetings), as well as a public presentation event conducted in Zagreb and attended by 40 stakeholders. Meetings and events were carried out by the project coordinator of REC Croatia together with the REC ESD expert, in December 2010 and February 2011. REC Croatia has also contacted several potential donors - business companies recognised as supporters of environmental projects - in order to present the GP material and discuss their possible support to country-specific GP development and its implementation in Croatia.

Conclusions from stakeholder consultations have been discussed with the 3 relevant institutional partners (the Ministry of Science, Education and Sport (MSES), the Ministry of Environmental Protection, Physical Planning and Construction (MEPPPC) and the Education and ETTA) at the end of the consultation process. They found the GP as a valuable educational resource material in the field of ESD that could serve very well the Croatian School system, and the **future implementation process of GP Croatia was agreed**:

- Adaptation and upgrading of GP to reflect the Croatian specific needs and challenges will be consulted with the Croatian authorities (organized in Advisory Working Group), but will be done by a core group of experts (Project Implementation Team - PIT) actively involved in the drafting process.
- The MSES confirms the ownership of the process and the future final product, and will facilitate the approval procedures once the material is developed, in order to be used as teaching material.
- The actual number of schools to target is under 1,300, which makes it possible to directly cover the majority of schools with teacher trainings, as well as to produce enough GP packages for (almost) 100% coverage. The school libraries should also be considered a GP target group.
- There is overall consensus of the consulted stakeholders and responsible authorities to maintain all 23 GP topics, and agreement on the enlarging the spectrum with some new proposed topics such as: Karst Ecosystems, Islands (as Croatian geographical specificity), Rivers and Lakes, etc.
- There is overall consensus that 4 basic elements of the GP (teacher's handbook, compact disc (CD-ROM), collection of films on digital video disc (DVD), dilemma games) are appropriate to be used in Croatian

schools. However the module customised for secondary schools should be more focused on electronic content (CD-ROM) in terms of media used, and to dilemma-games in terms of didactic approach.

- There is no consensus among professional educators whether the GP materials should be oriented to lower grades (1-4) or higher grades (5-8) of the primary schools, or to the secondary schools where similar ESD or EE materials are limited. In this context, the experts supported the idea to think about 2 modifications of the GP:
 - o The first one (based on the conventional GP combination of printed, video and computer based materials) to be orientated to grades 5-8 of the primary school;
 - o The second one, with more computer-based character, to concentrate more on a spectrum of social aspects of our present life that have contradictive and decisional character – to be orientated to the secondary schools
- Both Ministries recommended (and are ready to suggest additional) valuable experts who could contribute to the GP adaptation/upgrading process - in terms of environmental content and educational approach, and especially the development of the national context of the topics included in the product.
- The GP teachers' training program should be synchronized with traditional school teachers' training activities – that will improve the efficiency.
- Future teacher-trainers (multipliers in the country that will be trained by the REC to train the other teachers on using the GP) should be recruited mainly from the lines of educators in schools.

For the time being, there is no real expectation that the GP project could receive financial support from the national institutions, but they will support the fundraising process by providing supporting letters. In-kind support can be provided by/through the relevant Ministries: schools could cover the travel costs related to teachers attending training programmes; ministries could provide training/meeting venues and technical equipment, etc. Possible donors (at national level) could be banks (e.g. Zagrebačka Banka) and international business companies. Other possibilities for funding the implementation phase of GP Croatia are seen in direct negotiations with the business sector, as well as institutional donors (foreign governments, international financing institutions, regional governments in Croatia, etc.), which are already being conducted by the REC.

A detailed plan of implementation of GP in Croatia was developed on the basis of the meetings in Croatia and findings of the feasibility study, conducted in Croatia in the period December 2010 - February 2011. The feasibility study and development of the detailed implementation plan by the REC were supported by funding from the German Federal Ministry for Environmental Protection, Nature Conservation and Nuclear Safety and the German Federal Environment Agency as well as with in-kind support and policy advice provided by the responsible Croatian institutions (MSES, MEPPPC, ETTA).

1. Project context

With the advent of the United Nations (UN) Decade on ESD beginning in 2005 and the adoption of the Strategy on ESD at the Vilnius Ministerial Conference of the UN Economic Commission for Europe (UN/ECE) in March 2005, the countries of Europe, are challenged to fully integrate ESD into all strata of education. This project sought to practically address a part of that need by implementing in Croatia a proven multidisciplinary educational tool - **Green Pack** - and to assist local actors (teachers/educators, government authorities) in fulfilling their roles in raising awareness of Sustainable Development (SD).

A more specific role for educators lies in teaching children and adults about the interaction between environment and society development - how it functions, how it affects the human life, and how environment and development depend on each other. The school classroom provides ample opportunities for children and young people to develop social responsibility and practical capabilities for their future roles as adults.

At the moment, no similar educational tool or material exists or is being used in the Croatian school system. Therefore, within operationalisation of its Sustainable Development Strategy, which among its priorities includes the Education for Sustainable Development and permanent training of teachers, Croatia is currently preparing the *Action Plan on ESD*. In this framework, the GP and its integrated, country-specific approach has been recognised by the Croatian authorities as appropriately fitting among the relevant measures in the framework of national Action Plan on ESD. Since there are positive experiences with GPs developed by the REC¹ in a number of Central and Eastern European countries as well as in Central Asia since 2000, the Croatian MEPPPC and MSES expressed their desire to implement GP in Croatia with the help of REC, and to include it in the national educational program to the largest possible extent.

The present project represented the first stage of the overall GP activities in Croatia - a feasibility study on the needs in the field of EE and ESD in Croatia. During the project, REC experts analysed the local challenges and conditions, and met with local partners, including national and local institutions and organisations that can play a significant role in the next phase. Preliminary plans as well as the structure and content of the GP were defined, with an aim to harmonise the product with national curricula and educational standards. An analysis of the existing school resources helped to determine the format and elements of the final product. Also, the feasibility study defined the costs which are expected to occur as "technical expenses" as well as for capacity building of the teachers to use the GP material. Options for funding the estimated expenses of the next phases were investigated as well.

2. Project goals

The overall objective of the GP activities in Croatia is to build capacities, transfer know-how and establish the basis for further developments in the field of EE and ESD in the beneficiary country.

The specific objectives of this project – the feasibility study for the GP in Croatia – were to:

1. meet representatives of the relevant Croatian institutions responsible for environmental protection and public education, as well as representatives of teachers' networks, EE groups, environmental non-governmental organisations (NGOs), and SD experts (investigation of available information sources and past and current EE programmes were carried out as well);
2. present the GP methodology, products, and results obtained in other countries;
3. discuss the development of country-specific products for the needs of Croatia;
4. explore the national expert potential in the field of EE and ESD, and establish draft project teams in Croatia including experts from national institutions, NGOs, universities, etc.;

¹ REC has so far implemented the country specific Green Packs in 18 countries of Europe and Central Asia. More details at www.rec.org/REC/Programs/Greenpack.

5. discuss and adjust appropriate action plans for further implementation of the GP in Croatia (including product development, public promotion and training);
6. prepare report on the visit (feasibility study) and a detailed plan of implementation of the next phases of the GP implementation in Croatia.

3. Project implementation

The following activities were implemented, all in accordance with the initial project plan. They are further explained below.

1. Preliminary investigation and analysis of the specific environmental and development challenges that Croatia is faced today with;
2. Mission in Croatia, which included:
 - Meetings with representatives of the Croatian MSES, MEPPPC, ETTA and other relevant institutions – discussion on the GP character and its adaptation for the needs of Croatia;
 - Public presentation of the GP concept and planned activities before Croatian educators, teachers, representatives of institutions and decision-makers;
 - Communication with potential donors in Croatia in order to reach a common understanding and a strategy on the GP implementation in Croatia;
 - Meetings with organisations and experts that could become valuable contributors to the project – discussion on cooperation on the GP development and implementation in the country;
3. Development of plan of implementation of the GP in Croatia;
4. Development of a final report to the donor, including a feasibility study.

3.1. Analysis of specific environmental and development challenges of Croatia

This analysis included a desk research of available written and electronic information (documents, reports and studies), and direct contacts with project partners - 2 responsible ministries and the ETTA. The topics addressed included:

- Environment and development challenges of Croatia,
- Educational system and structure of the education sector,
- Projects in Croatia on education for environment and sustainable development, relevant for school population.

The **analysis of local challenges and conditions**, both environmental and economic, showed that the state of the Croatian environment is conditioned by the overall development of the country in the last 2 decades - characterized by consequences of the war, transitional economy processes, gradual introduction of European standards as part of the EU accession. During the war, economic activities have declined and consequences of the war on the environment are still being felt (more than 1000 sq. km of territory still contains landmines), migration of the rural population to urban areas is still present and consequent spreading of urban areas and transport infrastructure. However, as a whole, human induced pressures on the Croatian environment do not exceed critical limits. From administrative and institutional point of view, Croatia's environmental sector is now progressing well towards EU accession. Although environment is not considered a development priority of Croatia, the negotiations on Chapter 27 - Environment were successfully closed in December 2010.

Analysis of education system confirmed that in elementary or secondary education there is no separate subject called *environment* or *sustainable development*, although a number of national and international EE projects has been implemented under coordination or supervision/approval of the ETTA (mainly on-the-job training of teachers, conferences, etc.), but no educational materials have been produced from these projects yet, that could be used further in classroom as teaching material. The National Framework Curriculum is a guidance to schools in the development of their own programs, and there is space to incorporate GP through the cross-subject approach into the curriculum, for instance in the frame of a cross-curricular subject called "Health, safety and environment", both in

primary and secondary schools. There are/were quite some **projects of ESD relevance** carried out for the benefit of Croatian students and/or teachers, however none of them targets the teacher-student population in its entirety or in sufficient percentage to make a serious difference in terms of ESD, and none of them produced a comprehensive multidisciplinary teaching material that has entered the school curriculum.

3.2. Mission in Croatia

After the desk-research and analysis, a line of **consultation events** was organised (17 meetings), as well as a public presentation event conducted in Zagreb and attended by 40 stakeholders. Meetings and events were carried out by the project coordinator REC Croatia together with REC ESD expert, Mr. Kliment Mindjov, in December 2010 and February 2011.

In the framework of these meetings, REC Croatia has contacted several donors as well, in order to present the GP material and discuss their possible support to country-specific GP development and its implementation in Croatia, including a selection of business companies who are already recognised as supporters and financiers of various environmental projects and have a demonstrated sense of corporate social responsibility. These include:

- VIPNET d.o.o., originally Austrian company, second largest mobile phone service provider in the country;
- KONZUM d.d., largest domestic chain of supermarkets selling various consumer goods; present throughout the country;
- COCA COLA HBC HRVATSKA - bottling and trading company for soft drinks of Coca Cola brand;
- DROGERIEMARKT (DM) - originally German company, largest chain of low-cost self-service drugstores in Croatia;
- ATLANTIC GRUPA - one of leading food companies in the region, leading European producer of sports nutrition products Multipower, food additives Dietpharm and personal care products, and leading distributor of consumer goods in the South East Europe (SEE) region.

We were so far unsuccessful in getting more substantial interest of the business sector in supporting further GP implementation: discussions with potential donors in Croatia were only initiated. Three out of 5 so far contacted potential corporate donors/sponsors indicated they would be unable to provide support in the current year, due to limited resources allocated annually for similar purposes; however a possibility is still open for revisiting this possibility next year; we have planned meetings with 2 other companies (Konzum and DrogerieMarkt), but the timing is yet undefined.

3.3. Development of plan of implementation of the Green Pack in Croatia

Conclusions from stakeholder consultations have been discussed with the 3 relevant institutional partners (2 relevant ministries and ETTA) at the end of the consultation process. They found the GP as a valuable educational resource material in the field of ESD that could serve very well the Croatian School system, and the future implementation process of GP Croatia was agreed on the basis of their inputs. This agreement is reflected in the detailed plan of GP implementation that is annexed to this report, which has been accepted in this format by all our institutional partners.

3.4. Development of final report to the donor

As the final activity, a project report for the donor was prepared, which includes the feasibility study (overview of project findings) as annex. The feasibility study describes the results of all activities through which feasibility of implementation of GP in Croatia was investigated, namely:

- investigating environmental and developmental challenges of Croatia,
- studying the national educational system and existing/implemented projects on EE and ESD that could be of relevance for the schools, and for the future Croatian GP,

- consulting with relevant national authorities,
- collecting comments and inputs of various Croatian national stakeholders through , as well as during 1-week's consultation rounds implemented by REC ESD team.

4. Project results

The following results were achieved:

- full understanding on local needs in the field of EE and ESD in Croatia - obtained through individual and group consultations with stakeholders, as well as studying the available educational material and guidelines;
- common vision was designed jointly with local partners (two responsible ministries and ETTA) on the structure and content of the country specific GPs for Croatia. It is explained in more detail in the detailed plan of implementation for the GP in Croatia.

The following deliverables were prepared:

- the report on the feasibility of the GP in Croatia, attached as Annex I. to this report;
- a detailed plan of implementation for the GP in Croatia, attached as Annex III. to this report.

5. Difficulties in the project run

There were no particular difficulties encountered during this project's implementation, except for the slight differences in opinion in which age groups of children would GP be best applicable, and in which parts of educational program.

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6. Relevant measures taken to ensure sustainability of the project

Thanking to the detailed consultations conducted in the project period, project ownership by the main responsible authority - MSES, has been confirmed, through:

- nominating its representatives, as well as representatives of the ETTA (technical back-up to the MSES) into the National Advisory Group during development of country-specific product GP Croatia, in order to become "owners" of the final product and provide advice from educational and didactic point of view, and make sure the product is in line with the national framework curriculum as well as prescribed educational programs at national level,
- agreement to facilitate formal approval of the final produced material,
- providing support for further fundraising, through endorsement letters,
- providing in-kind support in implementation of teacher trainings.

Similar type of support is promised by the other responsible authority as well - the MEPPPC, through:

- nominating its representatives into the National Advisory Group during development of country-specific product GP Croatia, in order to provide content-related advice on the environmental and sustainable development content,
- providing support for further fundraising, through endorsement letters,
- providing in-kind support in implementation of teacher trainings.

7. Potential for transfer and replication

Findings from this project show that production and implementation of the GP material in the Croatian school system - provided that the sufficient funding is secured - is very much welcomed by the responsible authorities, expert institutions, organisations and individual experts.

The specific features of this programme, differing it from (the majority of) other approved teaching materials used in Croatian educational system, are the following:

- the product is free for use of schools (many other textbooks and auxiliary materials used in classroom have to be either purchased by the schools, or by the students/parents);
- the country-specific GP, once produced in the agreed quantities, is handed over to the local partners in the beneficiary country - in this case Croatia - for further use, replication, and updating in accordance with emerging country needs. The "critical mass" of teachers is trained to use the GP still within the frame of the project (under REC coordination), however the local partners are afterwards responsible for distributing the GPs to schools, and training further any additional teachers in how to use the material. Copyrights for the country are passed on to the National Working Group. All master copies are given free of charge to this group — thus they can continue the improvement and up-grading of the educational kit and produce updated editions if they so desire. They can decide to do the follow-up in cooperation with REC, but they are free to do it by themselves as well.

8. Project evaluation by the beneficiaries

No evaluation of the project as such was carried out.

However, in order to obtain as many structured inputs of stakeholders as possible about the GP feasibility in Croatia, during the consultations a structured questionnaire was also used. Annex II. includes a summarised overview of feedbacks received through the questionnaire.

Overall, the consulted stakeholders agree with all 23 topics, and most GP elements (dilemma games, teacher handbook, films on DVD and CR-ROM) seem to be (very) appropriate, while video-cassette is not any more appropriate due to advanced technical requirements in Croatian schools. Initials next to an answer indicate some specific individual opinions which were negative or "maybe" or where there were opposite answers to same question by different stakeholders, just so the variations could be seen. But we can say there is on average acceptance of all proposed GP elements and topics, including some new topics proposed. *Noise* was the only topic marked as "maybe" by more than one person.

Annexes:

- I. Feasibility study for the Green Pack in Croatia - Overview of project findings**
- II. Overview of stakeholder meetings and consultations in Croatia**
- III. Detailed implementation plan for the Green Pack in Croatia**
- IV. Detailed cost estimate for the implementation of the Green Pack in Croatia (also available as Excel file)**

ANNEX I. Feasibility study for the Green Pack in Croatia - Overview of project findings

I.1. Preliminary investigation and analysis of environmental and development challenges of Croatia

I.1.A. Environment and Development Challenges of Croatia

In the last two decades, the state of the Croatian environment has been conditioned by the overall development of the country – characterized by consequences of the war, transition processes in the economy, and gradual introduction of European standards as part of the EU accession process:

- During the war, economic activities have declined in all sectors, and Gross Domestic Product (GDP) has dropped by 35%. At that period, the pressure on the environment has reached its minimum.
- The consequences of the war on the environment are still being felt – an area of more than 1000 square kilometres still contains landmines.
- Wartime destruction has caused migration of the rural population to urban areas. Urban areas and transport infrastructure are constantly spreading. Recently, some rural areas affected by the war, show trends of population return.
- Taken as a whole, human induced pressures on the Croatian environment do not exceed critical limits
- Although targeted as a part of the economic activities, the protection of the environment has not been considered either a development priority of Croatia or positive political attitude.

From administrative and institutional point of view, Croatia's environmental sector is now progressing well towards EU accession. The negotiations on Chapter 27 - Environment were successfully closed in December 2010, and the current optimistic prognoses say that Croatia could close its overall negotiations by the end of 2011 and hope for the formal invitation for accession in 2012.

According to the European Commission's Annual Progress Reports, Croatia has by the end of 2010 resolved most issues in the area of environment, especially in difficult areas such as air quality, industrial pollution control and risk management, and climate change. Croatian environmental sector is fully harmonised with the *acquis*, including the earlier problematic field of water management, by means of the new Water Act and Water Management Financing Act, passed in December 2009. Establishment of the air quality monitoring and management system is entering its operational phase, and legislative frame for limiting emissions from stationary sources has been set, however compliance of marketed fuel with fuel quality standards as well as modernisation of petrol stations and refineries are still pending. Sustained efforts in remediation of existing landfills and hot-spots and further establishment of systems for collection and management of different categories of waste are needed. Little progress has been made in the area of renewable energy sources (RES), and there are no incentives yet for electricity production from renewable energy sources. Progress is however good in the field of energy efficiency, by enacting the legislation on energy end-use efficiency and energy certification of buildings (obligatory certification from April 2010 for all new and public buildings), as well as strengthening capacities of energy auditors and certifiers. A National Energy Efficiency Action Plan has been prepared, but administrative capacity in most these aspects is still insufficient. Further **development of administrative capacities** at all governmental levels, and development of corresponding financing plans, remain the main tasks. Main areas of concern include the nature protection, integrated pollution prevention and control (IPPC) and water management sectors, especially as regards implementation of the Water Framework Directive (river basin management planning), designation of Natura 2000 sites, and institutional strengthening and capacity building at the local and regional level. Given the high level of fragmentation of the environment sector across ministries and public bodies, improved coordination mechanisms and decision-making procedures are still required. Practical implementation of the horizontal *acquis*, particularly strategic environmental assessment and access to justice in environmental matters, still requires much effort, although legislative framework is in place since 2008.

According to reports of the Croatian Environment Agency², the state of the environment in Croatia is steadily improving. The following provides a brief overview of the main environmental and developmental areas:

- **Air** – The emissions of pollutants have decreased since the pre-war period, partly due to the shutdown of major emission sources, and partly as a result of measures taken to comply with international air quality measures. Air control measurements show that the air in rural parts of Croatia to be clean and the air in inhabited areas mostly to comply with current regulations and standards. In some areas – Rijeka, Sisak, Kutina – the air has been excessively polluted by specific pollutants such as hydrogen sulphide and ammonia. The energy sector is the major source of mono-nitrogen oxides (NO_x) emissions, due to fuel combustion in transport and stationary sources. The 2008 level of carbon oxide (CO) emission, produced primarily by transport and fuel combustion in households, has fallen by more than 45% compared to 1990. Sulphur dioxide (SO₂) emissions result from combustion in thermal powerplants and oil refineries, however according to inventory results, since 1990 they have fallen threefold, because of the combustion of low sulphur fuel. Thanks to measures undertaken in the last few years, major improvements have been registered.
- **Water** – Croatia is naturally endowed with water resources, which however, are disproportionately dispersed within the country. There is a marked shortage of water on the islands, and in the coastal areas during the summer season, when water demands become several times higher due to the presence of a large number of tourists. Groundwater is the main source of potable water supply. There are significant differences in the level of coverage between regions. On average 74% of population is connected to public water supply (while national coverage ratio is 80-82%, with significant regional differences), and the rest uses uncontrolled drinking water wells and other sources. Around 61% of municipal wastewater discharged into the public sewerage system undergoes treatment and purification. Significant capacities for wastewater treatment have been constructed in towns in which the main industrial polluters are located, mainly intended for industrial needs. In general, the quality of drinking water from public water supply systems is satisfactory at the level of the Republic of Croatia, but there are great regional differences. According to biological indicators, water quality is mostly categorized in class II and III. A slight downward tendency of organic pollution is a result of the construction of discharge systems and putting new municipal wastewater treatment plants into operation. However, nutrient pollution of freshwater and consequently the soils, is still high.
- **Soil** – Soil is the most neglected environmental component, which is partly a consequence of the non-existence of adequate protection policy in Croatia. The use and quality of soil have undergone changes due to intensive industrial and agricultural activities, inadequate methods of waste disposal, mining, military activities or various accidents. **Acidification** by acid rain and the intensive use of mineral and organic fertilizers may be found in about 29% of all soils in the country. Salinization of soils, especially in the Neretva River Valley in the Adriatic catchment area, is growing sharply. Extensive land exploitation and the construction of hydrological facilities have caused changes in the hydrological regimes of rivers. Almost half of Croatia's agricultural land is exposed to erosion.
- **Biodiversity** – The diversity and wealth of ecosystems and habitats in Croatia are among the largest in Europe. However, the Croatian biodiversity is threatened by anthropogenic pressures, primarily from infrastructure construction and the expansion of urban areas. The disappearance of habitats is one of the major threats to species. The inventorying of flora, fauna and important landscapes is underway. Croatian National Ecological Network (CroNEN) which in many ways corresponds to the future Natura 2000 list of sites, has been developed, covering 47% of the territory, and 39% of the territorial sea as well as two ecological over-sea corridors (one for marine turtles, and a Southern-Adriatic corridor important for bird migration). Strengthening of national capacities for biodiversity monitoring is supported by the EU and other international funding programs. The land area under protection covers around 10% of the mainland; however the protection provided by marine areas is much lower. The incorporation of biodiversity conservation practices in the economy sectors' policies of forestry, agriculture, water management has only just started.
- **Waste** – Waste prevention and minimization have been recognized as priority objectives, but their implementation lacks a systematic approach and education. Municipal waste volumes are

² Source: Croatian Environment Agency state of the environment reports; <http://www.azo.hr/TheEnvironmentIn>, publication *The Environment in Your Pocket 2010* - a concise report prepared annually.

constantly growing reflecting in about 300 kg waste generation per inhabitant annually. Around 80% of it is covered by organized collection, 18% – by unorganized collection, and the rest 2% by separate collection and composting. Almost all municipal waste collected is deposited in landfills, and the volume of packaging waste is increasing. The shutdown of hazardous waste incinerator during the war has worsened the problem with hazardous waste treatment, and a major portion of that waste is currently being exported. Measures have been taken recently to speed up the investment in remediation and closing of remaining 20% of dumpsites and landfills, as well as construction and operationalisation of the planned 21 regional waste management centres, which are a precondition to establishing an integrated waste management system by the year 2018.

- **Chemicals** – In Croatia, there is still no systematic monitoring on the volume and types of chemicals and chemical products available on the market, with the exception of volatile organic compounds such as organic solvents used in industry. An inevitable problem is the presence of other persistent organic pollutants in the biological cycles and chemical processes.
- **Energy** – The energy sector has significant impact on the environment. Since 1992, when the total consumption of energy dropped to a minimum, the production of primary energy is increasing. Some decrease in the industrial energy consumption was replaced by increase in household energy consumption and by energy consumption in the service sector. Despite this constant growth, the share of traditional renewable energy sources, such as biomass and large hydropower plants, in total primary energy production in 2008 was 33.8%, but the share of new renewable energy sources such as solar, wind, geothermal and biogas energy, energy from landfill gas, biodiesel, etc. was less than 1%.
- **Transport** – Transport is a source of considerable environmental pressure due to air emissions, increased levels of noise, negative impact on natural habitats, and road accidents. In the recent decades, there has been a strong growth in the number of vehicles. The road transport has increased significantly, while public, rail and maritime transport have been stagnating with tendencies for decrease. The emissions of lead have substantially dropped with the increased use of lead-free petrol. However, the accelerated consumption of diesel fuels has led to higher levels of emissions of SO₂ and particulate matter. A large portion of hazardous substances is transported by sea and maritime pipelines, which represents potential threat to the environment. Nevertheless the transport sector has significant environmental impact, it is insufficiently addressed in environmental programmes at national level.
- **Industry** – The war and transition periods caused sharp decrease in industrial production. Since 1997, there has been a constant upward trend. The increase in industrial activity has been accompanied by an increase in air emissions, especially those of CO₂ and SO₂. At the same time, there has been a noticeable improvement in the rational use of energy and natural resources. The steady increase in the number of companies certified by International Standardisation Organisation's (ISO) standard ISO 14001 for their Environmental Management Systems since 1997 is a result of intensified market promotion activities in terms of environmental efficiency, which is also a precondition for entering more demanding markets. However, still almost 30% of industrial wastewater is discharged directly into nature or the public sewage system without treatment. The adoption of the best available techniques (BAT) concept and integrated environmental permitting in 2008 is expected to minimize the possibility of industrial accidents occurring in the future. Mineral excavation such as quarrying, especially in their extreme forms, represents irretrievable landscape degradation due to the absence of revitalization of the exploitation sites; the recent legislation puts strict limitations on the exploitation of sand and gravel.
- **Agriculture** – The impact of agriculture on the environment is reflected in the pollution of the soil, waters and the sea. In contrast to the global trends of agricultural land expansion, the Croatian agricultural land has not significantly changed in the last decades. The country has initiated activities to promote and develop environmentally friendly agro-products. The consumption of mineral fertilizers has dropped considerably. However, there are still problems related to: fragmentation of farms, inadequate level of farmers' education and shortage of funds supporting sustainable development of the agricultural sector. At the moment, a large international project is ongoing, in order to support application of the code of good agricultural practice, which would limit the use of mineral fertilisers and pesticides and increase possibilities of organic production.
- **Forestry** – Forests cover 37% of the total Croatian mainland area, they are predominantly commercially used, some have protected natural areas status, and more than 90% of the total forest territory is managed by the state. Plant diseases, fires, transboundary and local air pollution, construction of large highways and other developments are the main threats to forests in Croatia.

The country makes every effort and considerable investments in forest fire prevention and protection.

- **Fishery** – The share of commercial fishing in Croatia's GDP is less than 1%, which is by no means satisfactory given the country's Adriatic orientation and the fact that fishing is a traditional branch of the economy. The sea fish catch continues to rise. Its pressure on sea life is greatest in channel areas, and that has resulted in a 40% drop of major groups of bottom-dwelling fish species. The fish-farming is a relatively new business activity in Croatia, and its volume continues to rise. Since 2005, an improved catch data collection system (through Register and obligatory reporting), enabled the monitoring of annual catch of fish and other marine organisms, assessment of the impact of fishing on the marine ecosystem and a developed framework for the rational management of bio-resources. Catch quotas have only been set for the bluefin tuna.
- **Tourism** – Tourism is becoming the fastest growing sector of economy, and it represents the main strategic determinant of the Croatian development. However, the disorganized growth of the tourist industry, the construction of new accommodation facilities without corresponding infrastructure, and the construction of marinas and roads are the main causes of increasing strong pressures on the environment. The majority of tourism-related pressures is concentrated in the coastal and littoral areas over a very short period of time, the summer season, which puts great stress on all environmental components. Almost all regions of the country are planning some form of tourism, regardless of the preconditions required. The areas of karst, rivers, lakes and protected natural sites are becoming especially vulnerable. However, the planned systematic evaluation and protection of all tourist potentials and resources has not yet taken place.
- **Climate change** – In Croatia, the years at the turn of the century were the warmest on record while in the same period the annual amount of precipitation dropped. The incidence of extraordinary weather conditions is rising. The change in greenhouse gas emissions is congruent with the changes in the rate of GDP growth. The most polluting sectors are energy, industry and transport. Marked progress has been made in the reduction and phasing-out of **ozone depleting substances**. Measures for gradual reduction of their consumption have been taken at national level. Thanks to positive national policy developments and measures undertaken in the last few years in terms of preparing the industrial sector to new EU obligations, major improvements have been registered, and Croatia is entering the Emissions Trading System under global agreements.
- **Health and the environment** – The healthy environment is understood and treated as a fundamental pre-condition for the quality of life and the protection of human health. The average life-expectancy in Croatia is relatively high – around 75 years. Epidemics caused by drinking water-borne agents are rare, recreational water of the highest quality is found on beaches. Air quality in urban areas has generally improved comparing with the situation 20 years ago. Noise is more often present in the working than in the living environment. Food safety in production and in transportation is continuously monitored. Measurements of total ozone, which plays an important role in preventing ultraviolet (UV) radiation from reaching the ground, are not carried out in Croatia. However, insight into the status of total ozone above the country's area is provided by a satellite showing that zonally averaged total ozone values in the period 1979-2007 show a downward trend of – 3.1% per decade. The risk of ultraviolet B or medium wave (UVB) radiation for humans corresponds roughly to UV index 5, and is still annually increasing, which may correlate with the increased incidence of skin cancer. There is no systematic research on the impact of such environmental factors as: noise, vibrations etc. – on human health. Total emissions of particulate matter, which also pose significant health hazard, and are coming mainly from transport, industrial processes and agriculture, have decreased by approximately 14% since 1990. Although the altered structure of fuel in the past years (less fossil fuels) helped to decrease emissions from fuel combustion, the increased activity of construction sector caused a considerable increase of emissions of particulate matter up to 10 micrometers in size (PM10).

Governmental priorities in the field of the environment and sustainable development for the current mandate period 2008-2011, the Croatian Government focus on the following:

- Harmonization of environmental legislation with EU standards;
- Improvement of the legal practices – priorities include liability for environmental damage; improving protected areas management system towards Natura 2000 and further proclamation of Natura 2000 sites;
- Institutional reform and strengthening inter-sectoral cooperation on sustainable development;
- Public participation in Natura 2000, River basin management planning, Environmental Impact Assessment and Strategic Environmental Assessment, as well as access to justice in environmental matters;

- In the field of waste management – remediation of landfills, and setting up of integrated waste management system;
- In the field of water management – water supply and wastewater management infrastructure investments; implementation of river basin management planning and water utilities reform;
- In the field of energy – National Energy Strategy update; promotion of renewable power sources, biofuels and energy efficiency in housing.

I.1.B. Educational System and Structure of the Education Sector

Currently, there are 875 primary and 429 secondary schools in Croatia. Obligatory primary education lasts for 8 years, starting from 6-7 until 14-15 years of age. The first 4 years are with one teacher, while during the second 4-year period children get a separate teacher for each subject. The secondary education - also obligatory - is with 3 or 4 years duration. Secondary schools are divided into general secondary schools (grammar schools), and vocational schools (i.e. trade, technical, art schools). Usually trade schools have a 3-year program, while high schools and art schools have 4-years, with the exception of Medical School for Nurses, which has been recently extended to last for 5 years.

The operation of private schools needs the approval of the MSES – their work is based on compliance with basic staffing and technical standards, justification of founding etc., but they are not obliged to follow the national framework program/curriculum, although they mainly decide to do so since the national standards are in fact a guidance.

Neither in elementary nor in secondary education there is no separate subject called environment or sustainable development, although a number of national and international EE projects has been implemented under coordination or supervision/approval of the ETTA. The projects have been focused on on-the-job training of teachers (certificates of attendance are issued for conferences, workshops, trainings etc.). No educational materials have been produced from these projects yet, that could be used further in classroom as teaching material.

The National Framework Curriculum³ is made as guidance to schools in the development of their own programs. It divides subjects into 3 groups:

- core curriculum (basic subjects obligatory for all pupils, except those with learning disabilities),
- differential curriculum (one or more optional subjects, offered at national or school level),
- school curriculum (non-obligatory subjects, additional and extracurricular activities, projects, excursions; don't need to be numerically graded).

There is ongoing broad discussion on national curriculum, in which ESD is in focus. Curriculum would be competence-based, and SD used as a tool at all educational levels, but it's not yet clear whether this would be a separate subject or part of (extra)curricular activities. Additional cross-subject topics can be incorporated throughout the curriculum, or programmed as separate subjects or modules, as the school finds appropriate. Some of them suggested by the National Framework Curriculum are:

- health, safety and environment,
- personal and social development,
- ICT technologies,
- citizen/civic education,
- entrepreneurship, and
- learning to learn.

These cross-subject topics could be addressed in the both primary and secondary schools.

The national education standards allow for different textbooks to be used in different schools for the same subject and the same age of pupils/students, as long as they have been approved by the national authorities (MSES three-person committee, including advisers from the ETTA). The list of allowed textbooks and supplementary teaching materials is issued each year, and once approved, these materials can theoretically stay on the list indefinitely, pending a review of the list every 4 years. In

³ The *National Framework Curriculum for pre-school education and general elementary and secondary education* is available in Croatian at <http://public.mzos.hr/Default.aspx?sec=2685>.

order to request MSES approval for a new or edited textbook, a legal entity needs to be registered for publishing activity and pay an administrative fee of approximately 350 euro.

I.1.C. ESD Projects in Croatia relevant for school population

- Project "Promoting Education for Environment and Sustainable Development" was implemented in the period 1996-2000, with a team of environmental and communication experts of the former Education Institute (now ETTA), in cooperation with MEPPPC, and with funding from the State Budget. Participants could be teachers of all subjects (in grades 5-8) and junior school teachers, although mainly biology/chemistry teachers attended. There were 4 trainings per year, plus an annual conference, and they were considered part of on-the-job trainings for teachers, for which certificates were issued.
- In 2008 and 2009 ETTA organized 5 inter-county conferences with the aim of clarifying the idea of education for sustainable development in the context of the UN decade dedicated to this aspect of education, and sensitization of representatives of schools in this area. Experience from the implementation of the above mentioned project was used in the process.
- In cooperation with international Environment and School Initiatives (ENSI) network, ETTA translated the brochure "Quality criteria in the implementation of Education for Sustainable Development for Schools," which is available on the website and which is a valuable benchmark and support in self-evaluation of the schools.
- Since 2008, the project "Training of trainers for Education on Sustainable Development" is implemented in collaboration with the NGO Kulturkontakt (Austria), which provided speakers - renowned experts from Austria. 8 two-day training modules were carried out. The project ends in May 2011 with an international (regional) conference which will present a guide to education for sustainable development.
- In the period 2007-2010, ETTA organized annual symposia for teachers of biology and chemistry around the framework theme of sustainable development (on average 300 participants each time). The first two years were dedicated to environmental components, and the last two years focused on the topics of health and nutrition.
- SEMEP project⁴ (South East Mediterranean Sea Project) - initiative of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) connecting cultures through nature science in the aim of sustainability. Croatian schools are involved through school coordinators, annual national conferences held. It involves students at the upper primary and secondary levels in both formal and non formal sectors. It is intended to create an educational, environmental and cultural network for contact and cooperation among students in the region that reaches beyond the school to the community. Participants are elementary and secondary schools and local authorities. It is coordinated in Croatia by ETTA and Medical School Dubrovnik.
- GLOBE program⁵ (Global Learning and Observations to Benefit the Environment) is a several-decades-long global program of US government, teaching scientific meteorological observation to students of elementary and secondary schools (atmosphere, water and soil), and reporting into central US-based database. Croatia is among the most active countries, 140 schools involved, annual national student competitions, and attendance of international conferences is involved. National coordinator is Ms. Diana Garasic, members of national task force (expert team) are various experts of relevant topics, including water quality, meteorology, soils etc., - scientists and secondary school teachers.
- International Eco-Schools⁶, program run by the Foundation for Environmental Education (FEE), implemented in Croatia by the NGO 'Lijepa naša' already for 11 years. This is an international programme for environmental education and management, which aims to raise students' awareness of sustainable development issues through classroom study as well as school and community action. Emphasis is on democratic and participatory approach, it encourages children and youth to take an active role in how their school can be run for the benefit of the environment, highlighting the importance of civic values. Participating schools can enter the program annually, decide on 1 out of 3 major available topics - water, energy or waste/litter (guidance materials are available in Croatian), and at the end of the school year can be awarded a Green Flag, according to strict evaluation criteria, if successfully passed through a 7 step program. The award is not permanent,

⁴ www.unesco.org/education/educprog/ste/projects/semp/index.htm

⁵ <http://globe.gov/>

⁶ <http://www.eco-schools.org/>, <http://www.lijepa-nasa.hr/eko-skole>

and each year a school has to re-confirm adherence to environmental goals they have set for themselves to defend the keeping of the Green Flag. Recently the list of available topics has been expanded, and now it includes also other thematic areas such as Nature and Biodiversity, School Grounds, Transport/Sustainable Mobility, Healthy Living, Noise, Local Agenda 21 and Climate Change. A total of around 270 primary and secondary schools and kindergartens in Croatia are involved in the program. Financial support to each school usually comes from the local government and some local companies.

- Eco-quiz 'Lijepa naša'⁷ (Our beautiful homeland), developed and coordinated by NGO 'Lijepa naša', includes regional (county-level) contests among higher elementary school grade students (5-8th grade), and among secondary students, followed by national-level finals. Topics cover 5 school subjects (nature, biology, chemistry, geography, religious teaching). Each participating school takes part in a quiz-show and also prepares a presentation of their environmental and/or nature-conservation activities/achievements/learnings in the form of Powerpoint presentations. This competition is part of the officially adopted annual program of student events under national budget financing, and ETTA members participate in the evaluation committee.
- "5 thousand diplomas of friends of forests in the Koprivnica-Križevci County" is an interactive CD-quiz-game developed at the initiative of Forestry Faculty of Zagreb and public enterprise *Croatian Forests*. CD was promoted in February 2011 and by end March 2011 will be distributed to all schools in the county (administrative region). Possibly later it would have a wider scope at the national level, and the materials can be incorporated into the Croatia GP version.
- Association "PET+" - Healthy Eco-Life⁸ Interactive workshops, international project funded by EU Health Programme and some national donors, implemented between Croatia and Slovenia, is among the certified education programs by the MSES. This program is targeted to primary schools in Zagreb (Croatia) and Maribor (Slovenia), covering topics of healthy nutrition, environmental preservation, need for regular physical activity and the importance of emotional health. Project duration is 2010-2011.

This shows that there are/were quite some projects of ESD relevance carried out for the benefit of Croatian students and/or teachers, however none of them targets the teacher-student population in sufficient percentage to make a serious difference in terms of ESD, and none of them produced a comprehensive multidisciplinary teaching material that has entered the school curriculum.

An exception could be the International Eco-Schools project - however this project addresses a limited quantity of already well environmentally aware and active students and teachers (which on average make only 7-10% of total students and teachers population), while the GP's intention is to reach the entire educational system by preparing materials specifically targeted to the vast majority (ca 80%) of population who are not sufficiently informed or interested, and have not yet fully developed their environmental and sustainable development values and practices.

I.2. Overview of the mission in Croatia

Herewith a table overview of all Project's consultation meetings and presentation events conducted by the REC team in the period December 2010 - February 2011 is provided, while their content is described in more detail in the corresponding Annex II. to this report.

Meeting summaries in Annex II. contain the following elements:

- meeting participants (stakeholders consulted),
- agenda, main points of discussion and conclusions,
- brief profiles of educators, teachers and experts consulted, as well as areas of potential cooperation in the Croatian GP development.

⁷ <http://www.lijepa-nasa.hr/ekoloski-kviz>

⁸ <http://www.healthy-eco-life.com/pages/indexE.html>. PET+ is a Croatian abbreviation, and it stands for Priroda-Energija-Transformacija. English abbreviation is NET+, i.e. Nature-Energy-Transformation.

Table 1. Overview of Project meetings/events

Date and venue	Participating stakeholders/institutions	Main topics discussed	No. of participants	Relevant annex
<i>Meetings with representatives of the Croatian partner institutions</i>				
17.12.2010. MEPPPC Premises - Ulica Rep. Austrije 14, Zagreb	MEPPPC	Agreement on the involvement of institutional and other stakeholders into the GP feasibility process. Planning the sequence of activities in the project.	7	II.
10.02.2011. MSES Premises - Donje Svetice 38, Zagreb	MSES, MEPPPC, ETTA	GP character and its adaptation for the needs of Croatian school system.		II.
25.02.2011. Premises of the MSES - Donje Svetice 38, Zagreb	- MSES - Ms. Katarina Grgec, - ETTA - Ms., Diana Garašić, Ms. Marijana Toljan	Overview of meetings and discussions with stakeholders (individual experts and organisations) done in the period 21-24 February. Conclusions and directions for further development of detailed GP implementation plan.	5	II.
25.02.2011. MEPPPC Premises - Ulica Rep. Austrije 14, Zagreb	MEPPPC		4	II.
<i>Public presentation & consultation event</i>				
21.02.2011. MSES Premises - Donje Svetice 38, Zagreb	educators, teachers, representatives of institutions and decision-makers	Presentation of GP and multi-stakeholder discussion on the needs and priorities for its implementation in Croatia.	40	II.
<i>Meetings with potential donors</i>				
21.02.2011. Company premises	VIPNET d.o.o.	Project presentation; discussion on potential financial or in-kind support to project implementation	4	n/a
24.02.2011. Company premises	COCA COLA HBC HRVATSKA		3	
24.02.2011. Company premises	ATLANTIC GRUPA		4	
<i>Meetings with potential expert contributors - individual or group consultations with organisations and experts</i>				
21.02.2011. REC Office - Đordićeva 8a, Zagreb	NGO DOOR (Society for Sustainable Development Design), Maja Božičević-Vrhovčak, president	Presentation of the GP package. Cooperation on the GP development and implementation in the country. Potential topics and areas for expert contribution.	3	II.
22.02.2011., Social Sciences Institute 'Ivo Pilar' - Marulićev trg 19/2, Zagreb	Vladimir Lay, professor and scientist		3	
22.02.2011. PET+ office - Dalmatinska 11/1, Zagreb	Association PET+ : Jelena Balabanić-Mavrović, president		3	
22.02.2011. REC Office - Đordićeva 8a, Zagreb	ESD Partnership Initiative: Network of Educational Policy Centers; Green Action; Forum for Freedom of Education; Institute of Social Reserach		6	
	Science Faculty of the University of Zagreb - prof. Ružica Vuk, MSc Dubravka Spevec, Dept of Geography		4	
23.02.2011. REC Office - Đordićeva 8a,	Science Faculty, Zoology Dept - Renata Matoničkin Kepčija		3	

Date and venue	Participating stakeholders/institutions	Main topics discussed	No. of participants	Relevant annex
Zagreb 23.02.2011. ODRAZ Office - Ljudevita Posavskog 2, Zagreb	NGO ODRAZ (Sustainable Community Development) - Lidija Pavić, president NGO SMART - Slađana Novota, president		4	
23.02.2011. SINP office - Trg Mažuranića 5, Zagreb	State Institute for Nature Protection - Ms. Ana Štrbenac, Ms. Andreja Ribarić		4	
24.02.2011. REC Office - Đordićeva 8a, Zagreb	NGO 'Lijepa naša' ('Our Beautiful Homeland') - Dr. Ante Kutle, president; prof. Josip Gregac, program coordinator	Presentation of the GP package. Cooperation on the GP development and implementation in the country.	4	II.
24.02.2011. Elementary School, Stepanovečka cesta 67, Zagreb	Elementary School 'Marija Jurić Zagorka' - Ms Lidija Žišković, biology teacher and GLOBE coordinator; Ms Ana Novina, special education therapist	Potential topics and areas for expert contribution.	4	

I.3. Conclusions on GP feasibility in Croatia

The most important conclusions arising from the long line of stakeholder consultations have been discussed with the 3 relevant institutional partners (2 relevant ministries and ETTA) at the end of the consultation process on February 25, 2011 in Zagreb, and the future implementation process of GP Croatia as agreed can be summarised as follows:

- GP is considered valuable educational resource material in the field of ESD that could serve very well the Croatian School system.
- It needs adaptation and up-grading reflecting the Croatian specific needs and challenges.
- The adaptation should be consulted with the Croatian authorities (organized in Advisory Working Group) but should be done by a core group of experts (PIT) actively involved in the drafting process.
- The MSES would like to be able to influence the project development by its experts, and take care of approval procedures once the material is developed, in order to be used as teaching material - this confirming ownership of the process.
- There is a lack of similar materials for secondary schools, compared to what is available for primary schools (primary level works on ESD within a cluster of topics on "citizen education and democracy").
- The information on the number of school units provided during the meeting (875 primarily, and 429 secondary schools, minus 35 art schools which are not part of a target group) differs from some preliminary statistic data on the total number of schools (this count doesn't include the regional school branches which only have younger primary school grades 1st-4th, and are thus not main target groups of the Croatian GP). This decreases the actual number of schools to target to less than 1,300, and makes it possible to directly cover many more schools with teacher trainings, as well as produce enough GP packages for (almost) 100% coverage.
- The school libraries (existing in most of the schools) should be also considered GP target group.
- There is overall consensus of the consulted stakeholders and responsible authorities to maintain all 23 GP topics⁹ (as seen in example of the Bosnian GP), and agreement on enlarging the spectrum of topics with some new proposed themes such as: Karst Ecosystems, Islands (as Croatian geographical specificity), Rivers and Lakes, etc. specific for Croatia.

⁹ ENVIRONMENTAL COMPONENTS: Air; Water; Soil; Biodiversity; THREATS AND PRESSURES: Urbanisation; Noise; Waste; Chemicals; Landmines; HUMAN ACTIVITIES: Energy; Transport; Industry; Agriculture; Forestry; Tourism; GLOBAL CHALLENGES: Climate change; Ozone depletion; Acidification; Seas and oceans; VALUES: Consumer society; Health and environment; Citizens' rights; Our Earth in the future. *Source: Green Pack Bosnia and Herzegovina (Bosnian Croatian) <http://www.rec.org/publication.php?id=123>*

- There is no consensus among professional educators (expressed during the public presentation as well as the meetings) whether the GP materials should be orientated to younger grades (1-4) or the older grades (5-8) of the primary schools, or to be prepared for the needs of the secondary schools where similar ESD or EE materials are limited. In this context, the experts supported the idea to think about two modifications of the GP:
 - o The first one (based on the conventional GP combination of printed, video and computer based materials) to be orientated to grades 5-8 of the primary school;
 - o The second one, with more computer-based character, to concentrate more on a spectrum of social aspects of our present life that have contradictive and decisional character – to be orientated to the secondary schools.
- There is overall consensus that all 4 basic elements of the GP (teacher's handbook, CD-ROM, DVD-collection of films, dilemma games) are appropriate to be used in Croatian schools. However the module customised for secondary schools should be more focused on electronic content (CD-ROM) in terms of media used, and to dilemma-games in terms of didactic approach.
- Both Ministries recommended (and are ready to recommend additional) valuable experts who could contribute to the GP adaptation/upgrading process - in terms of environmental content and educational approach, and especially the development of the national context of the topics included in the product.
- The GP teachers' training program should be synchronized with traditional school teachers' training activities – that will improve the efficiency of the project.
- Future teacher-trainers (multipliers in the country that will be trained by the REC to train the other teachers on using the GP) should be recruited mainly from the lines of educators in schools. There should be a public call for expressions of interest for becoming teacher-trainers (multipliers) announced well in advance, so that the candidates could obtain school management's consent to take part in the trainings regularly over a period of time.
- Representatives of the Ministries should be involved in the GP Advisory Working Group, by providing guidelines and advice during the Croatian GP development, taking part in its evaluation; advising on how to organize the teachers training and the GP development in a more efficient way.
- Possible donors (at national level) could be some banks (Zagrebacka Banka), international business companies, etc. – in this context, the Ministries will provide the REC with the relevant supporting letters.
- For the time being, there is no real expectation that the GP project could receive financial support from the national institutions, but they will support the fundraising process by providing supporting letters.
- In-kind support can be provided by/through the relevant Ministries: schools cover the travel costs related to teachers attending training programmes; ministries provide training/meeting venues and technical equipment, etc.
- Other possibilities for funding the implementation phase of GP Croatia are seen in direct negotiations with institutional donors (foreign governments, international financing institutions etc.), which are already being conducted by the REC.

On the basis of findings of the feasibility study and the consultations process, a detailed plan of implementation of the GP in Croatia was developed. The conducting of the feasibility study and the development of detailed implementation plan by the REC were supported by the funding from the German Federal Ministry for Environmental Protection, Nature Conservation and Nuclear Safety and the German Federal Environment Agency as well as with in-kind support and policy advice provided by the responsible Croatian institutions (MSES, MEPPPC, ETTA).

ANNEX II. Overview of stakeholder meetings and consultations

II.1. Preparatory meetings

II.1.1. Preliminary meeting with MEPPPC

Time: December 17, 2011, 10-12am

Venue: MEPPPC, Ulica R. Austrije 14, Zagreb

Participants:

- MEPPPC:
 - o Ms. Marijana Mance Kowalsky, Head of Directorate for International Cooperation and Sustainable Development
 - o Ms. Branka Pivčević-Novak, Head of Department for Sustainable Development
 - o Ms. Marina Gršković, Senior Adviser at the Department for Sustainable Development
 - o Ms. Gordana Ruklić, Head of Department for International Cooperation
 - o Ms. Marina Prelec, Adviser at the Department for International Cooperation
- REC Croatia: Ms. Irena Brnada (director), Ms. Vesna Bončina (project manager)

Agenda:

- Discussion on the involvement of institutional and other stakeholders into the GP feasibility process;
- Planning the sequence of activities in the project.

Summary of discussion and conclusions:

- The MEPPPC is coordinating preparation of the action plan for implementation of the Sustainable Development Strategy, and a working group has just been set up for the development of ESD Action Plan in this frame.
- MEPPPC suggests that a meeting with members of this ESD AP working group could be also organised in the frame of GP feasibility study consultations (the working group hasn't yet had its first session, but this is an option).
- However, the first official preparatory meeting should be held only between the core project partners - MEPPPC, MSES, ETTA and REC Croatia. It should be organised by the MSES, who should take over ownership of the process from the MEPPPC. MEPPPC will contact and agree with the MSES about the possible date for this meeting.
- If meeting with members of this ESD AP working group cannot be easily organised, REC should consult individually with most relevant members of this group.
- The public presentation and consultation event should be held before the end of February 2011, in the frame of visit to Croatia of the REC's ESD expert Mr. Kliment Mindjov, and individual consultations with stakeholders should follow afterwards.

II.1.2. First preparatory meeting with national project partners

Time: February 10, 2011, 10-12am

Venue: MSES, Donje Svetice 38, Zagreb

Participants:

- MSES: cca 10 representatives from 5 different directorates:
 - o Directorate for secondary education, incl. Head of Directorate Ms. Vesna Hrvoj-Šic
 - o Directorate for pre-school and elementary education, incl. Head of Directorate Ms. Jasenka Đenović
 - o Directorate for joint programs,
 - o Directorate for national curriculum, incl. Head of Directorate Ms. Vini Rakić
 - o Directorate for international cooperation
- ETTA: Mr. Vinko Filipović (director), Ms. Diana Garašić (head of Department for Subject Teaching), Ms. Marijana Toljan (adviser for biology and chemistry)

- MEPPPC: 3 representatives of the Directorate for International Cooperation and Sustainable Development - Head of Directorate Ms. Marijana Mance Kowalsky, Head of Department for Sustainable Development Ms. Branka Pivčević-Novak, Adviser at the same department Ms. Marina Gršković
- REC Croatia representatives - Irena Brnada (director), Sunčica Kopjarević-Jurić (finance and projects manager)

Agenda:

- Introductory words by both ministries
- Presenting the most recent GP version, produced for Bosnia and Herzegovina - REC
- Reminder about all stages of potential GP development in Croatia, explaining the activities in the current Feasibility Study phase - REC
- Discussion (*inputs and opinions of institutions present about the approach to be taken in Croatia, e.g. number of schools/teachers to be included in trainings and quantities of GP to be produced; target age groups of children; suggestions for experts to be consulted during feasibility stage; suggestions for experts to be engaged in adaptation work in Croatia; GP topics to include/exclude, etc.*)
- Agreement on the timing for next preparatory meeting, to discuss findings and plan further steps
- Agreement on the place and time for public presentation event, to be held preferably by end February 2011

Summary of discussions:

- Ms. Mance Kowalsky (MoEPPPC) said in the introductory part that the GP production for Croatia is seen as one of the indicators for the implementation of the draft ESD Action Plan in the frame of Sustainable Development Strategy, coordinated by MoEPPPC
- Ms. Hrvoj-Šic (MSES) informed that Directorate for Secondary Education (lead by her) is actively participating in the working group for the development of this ESD Action Plan
- Ownership of further ESD processes, as well as the Croatian GP development, will be strongly in the hands of the MSES
- REC presented the GP contents on the example of the Croatian language GP version for BiH, going through GP CD-ROM contents to show all interactive parts and compare with the hardcopy elements of the package
- REC presented the stages of potential Croatian GP preparation, and explained what is the purpose of the current feasibility phase
- REC listed the inputs that should be received from the participants in order to guide the further planning, such as: opinion on the number of schools/teachers to be included/trained and GP copies to be produced for Croatia; opinion on the ages of children for whom GP in Croatia would be made, suggestions for experts to be consulted/hired for adaptation work, etc.

Conclusions:

- REC will send the questions in the form of a GP feedback questionnaire and any additional questions to the designated contact persons at MSES and ETTA. Inputs from MSES and ETTA experts will be consolidated in 2 single inputs (documents) - one per institution, and sent also to the MEPPPC. Inputs should be received latest by 18 February, after which we can arrange for another joint meeting to discuss the replies.
- Public presentation event will be held at the premises of MSES, in their conference room equipped with multimedia and presentation equipment, in the week of 21-25 February, during which time the REC's main ESD expert, Mr. Kliment Mindjov, will be in Zagreb, so that a number of consultation meetings with local experts can be organised.
- REC will be informed about possible dates / availability of the conference room soonest, and latest by Monday February 14, so invitations could be already sent out.
- The MEPPPC suggested that in the week of 21st February the public presentation event is done first, followed by individual meetings, because in that way the contacted stakeholders/experts will have had the chance of seeing the overall GP presentation already, and the meeting discussions can concentrate on the constructive discussion and less time is lost for presenting the contents of GP package each time. This is also the approach that REC has implemented in other countries.
- MSES should also by Monday, February 14, send to REC the list of suggested invitees for the public presentation event, and possible individual experts/institutions to be consulted in the process of feasibility study development, as well as suggested experts to be included in subsequent Croatian GP adaptation work.
- Meeting had an overall positive atmosphere, many compliments to the visual design and contents of GP. There was no opposition to introducing the GP material in Croatian schools, but no concrete feedback was received on the spot. Main concerns of the MSES were that GP packages should be free for the schools, and that the external experts engaged on adaptation work should be paid. The REC confirmed this, and informed that all REC projects are funded as donations and sponsorships, so the same approach will be used for this project.

II.1.3. Second preparatory meeting with national project partners

Time: February 21, 2011, 1-2pm

Venue: MSES, Donje Svetice 38, Zagreb

Participants:

- MSES: Ms. Vesna Hrvoj-Šic, Head of Directorate for secondary education; Ms. Katarina Grgec, Advisor at the Directorate for secondary education (contact person of MSES for the GP project)
- MEPPPC: Directorate for International Cooperation and Sustainable Development - Head of Directorate Ms. Marijana Mance Kowalsky, Head of Department for Sustainable Development Ms. Branka Pivčević-Novak, Adviser at the same department Ms. Marina Gršković
- REC representatives - Kliment Mindjov, REC ESD Expert; Irena Brnada (director of REC Croatia)

Summary of discussions and conclusions:

The short meeting was held as short preparation for the upcoming public presentation and consultation event. Ms. Hrvoj-Šic (MSES) informed that the Directorate for Secondary Education (lead by herself) is actively participating in the working group for the development of this ESD Action Plan, and is assuming ownership of further ESD processes including the Croatian GP development. The MSES would like to be able to influence the project development by its experts, and take care of approval procedures once the material is developed, in order to be used as teaching material.

There is a lack of similar ESD materials for secondary schools, compared to what is available for primary schools (primary level already works on ESD within a cluster of topics on "citizen education and democracy"), therefore it is considered at this Directorate that GP should be also (or primarily, in case of limited funding) produced for secondary schools.

REC experts confirmed once again that possibilities for adapting and customising GP in Croatia are open to any needed form or level, and explained various options for GP application that were selected in different countries. This included an example of Macedonia which decided to produce an additional quantity of GPs in Braille script for the use of blind people; or for instance the Azerbaijani Minister of Environment who requested an additional batch of GPs to be produced and distributed to all of his Ministry staff, used to operating strictly within their narrow sectoral frameworks, to enable them to start thinking in a more integrated manner and get acquainted with the full scope of SD issues to be taken into consideration in their policy work.

In conclusion of the meeting, the protocol was agreed for the subsequent public presentation and consultation event, to be held at MSES premises on the same day.

II.2. National public presentation and consultation event

Time: February 21, 2011, 14:00-17:00

Venue: MSES, Donje Svetice 38, Zagreb

Participants:

1. Ana Markovinović, teaching assistant at Pedagogy Department, Zagreb Faculty of Philosophy
2. Damir Subašić, director of Hazardous Waste Management Agency and member of National Council for Sustainable Development and Environment
3. Kamilo Ćuljak, NGO Diving Association Split and member of National Council for Sustainable Development and Environment
4. Tatjana Bakran-Petricoli, Zagreb Faculty of Science, Biology department - Zoology
5. Renata Matoničkin Kepčija, Zagreb Faculty of Science, Biology department - Water quality
6. Mirjana Carek, Kindergarten Budućnost, Zagreb
7. Renata Karaman, Kindergarten Budućnost, Zagreb
8. Vesna Smojver, pedagogy professor, Kindergarten "Srednjaci", Zagreb
9. Sonja Omerzo, speech pedagogist, Kindergarten "Mali princ", Zagreb
10. Jelena Balabanić Mavrović, president of Association PET+, Zagreb
11. Zdravko Špirić, Oikon d.o.o. environmental consulting and member of NGO Odraz, Zagreb
12. Vladimir Lay, Institute of Social Sciences "Ivo Pilar", Zagreb
13. Sanja Klubička, Technical School Daruvar, GLOBE program expert
14. Zdravko Furlan, school principal, Elementary School 'Otok', Zagreb
15. Ana Novina, Special education therapist, Elementary School 'Marija Jurić Zagorka', Zagreb
16. Josip Gregac, Program coordinator, NGO 'Lijepa naša'
17. Marijana Vekarić, pedagogy teacher, Medical School Dubrovnik
18. Sunčica Kužilek-Pistotnik, School for Medical Nurses Vrapče, Zagreb

MSES - representatives from 5 different directorates:

19. Vesna Hrvoj – Šic, head of Directorate for Secondary Education
20. Ivana Pilko Čunčić, adviser, Directorate for Secondary Education
21. Katarina Grgec, adviser, Directorate for Secondary Education
22. Vini Rakić, head of Directorate for national curriculum
23. Mara Plaza-Leutar, Directorate for national curriculum
24. Jasenka Đenović, head of Directorate for pre-school and elementary education
25. Marija Ivanković, head of Pre-school education department
26. Ivana Puljiz, head of Directorate for international cooperation and European integration,
27. Vinko Purgar, head of Department for multilateral cooperation
28. Jozo Ćavar, head of Directorate for joint programs
29. Marija Prišćan, Directorate for joint programs
30. Vera Šutalo, head of Department for joint programs, grammar schools, art schools and student homes
31. Hrvoje Pavletić, Directorate for International Cooperation

ETTA:

32. Diana Garašić - head of Department for Subject Teaching, ESD programs coordinator
33. Marijana Toljan, adviser

MEPPPC:

34. Marijana Mance-Kowalsky, Head of Directorate for International Cooperation and Sustainable Development
35. Branka Pivčević-Novak, Head of Department for Sustainable Development
36. Marina Gršković, Senior Adviser, Department for Sustainable Development
37. Marina Prelec, Adviser, Department for International Cooperation

REC:

38. Kliment Mindjov, REC ESD expert
39. Irena Brnada, Director REC Croatia
40. Bojan Slišković, Information and Project Officer

AGENDA:

14:00 Welcome and introduction to event

- *Ms. Vesna Hrvoj-Šic, Head of Directorate for Secondary Education, MSES*
- *Ms. Marijana Mance-Kowalsky, Head of Directorate for International Cooperation and sustainable development, MEPPPC*

14:15 Presentation of GP

15:00 Discussion on possibilities and needs for GP application in Croatian educational system

16:15 Reception

Materials distributed:

- *GP general info*: written overview of all GP programme achievements since 2000, description of GP package components (in Croatian, 6 pgs)
- Feedback questionnaire for participants, on the GP content and on possibilities of its application in the Croatian educational system
- UBA-approved GP project information sheet in Croatian
- GP CD-ROM in Bosnian/English (limited quantity)
- Factsheets of selected other REC projects (GP Junior, Kyoto in the home etc.)

Summary of discussions and conclusions:

- Ms. Hrvoj-Šic (MSES) and Ms. Mance Kowalsky (MEPPPC) welcomed the participants and informed them of the activities of the working group for the development of ESD Action Plan, in which the GP production for Croatia will be one of the indicators of its implementation in the frame of Sustainable Development Strategy, which is coordinated by MEPPPC
- GP and GP Junior contents were presented by the REC's ESD expert, Mr. Kliment Mindjov, on the example of the Croatian language GP version for BiH. The presentation showed the GP CD-ROM's interactive content, as well as the hardcopy elements of the package. He also presented the stages of potential Croatian GP preparation, and explained what is the purpose of the current feasibility phase
- The GP presentation included a practical demonstration of some simple exercises from the GP Teacher's Handbook that could be used in classroom.
- In the subsequent discussion, opinions of participants differed regarding the target age groups of children – the majority feels that the material should be used for higher grades of elementary schools, but there are also suggestions to prepare separate modules for younger children like the GP Junior (even for the kindergarten age), and/or a more complex module with a focus on dilemma-games for secondary school students.
- The REC confirmed that the GP material for Croatia - as in each country so far - will be customised to the needs of the country, the national curriculum and educational standards, and elaborated in cooperation with national environmental and educational experts.
- There was general agreement about the topic-oriented approach of the GP, as presented.
- Informal discussions were held during the short reception, and agreements were made for several individual meetings with the REC team during the week.
- Some participants used the opportunity to check out the GP's interactive CD-ROM on available laptop computers.
- *GP Questionnaire* was distributed to participants in order to collect additional written input on the content and approach of the GP for the Croatian context; around 15 responses were received.

Appendices:

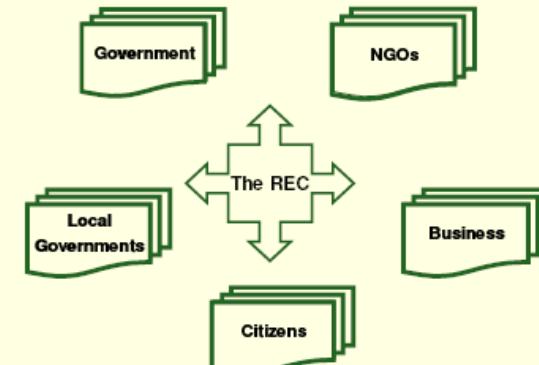
- Powerpoint presentation of GP
- Signed list of participants



in Europe and beyond

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The REC bridges – stakeholders



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The Regional Environmental Center for Central and Eastern Europe (REC)

- “... is a non-partisan, non-advocacy, not-for-profit international organisation with a mission to assist in solving environmental problems (...)"
- The REC is legally based on a charter signed by the governments of 29 countries and the European Commission
 - Head Office in Szentendre, Hungary
 - Offices in 17 countries
 - Operation beyond Central and Eastern Europe!
 - 190+ staff (some 30 nationalities)

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The Green Pack Concept



REGIONAL ENVIRONMENTAL CENTER www.rec.org

- Multimedia**
- Focus on Teachers**
- Pupils 11-15 years old**
- Various materials**
- Relevance to curricula**
- Interactive (games, discussions, role playing, brainstorming)**
- 22 topics in 5 chapters**



Europe's Environment

CD-ROM

REGIONAL ENVIRONMENTAL CENTER

www.rec.org

animated presentation of CD's audiovisual content



Europe's Environment

Book

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- Environmental components:** air, water, soil, biodiversity
- Threats to the environment:** urbanization, noise, waste, chemicals
- Human activities and impacts on the environment:** energy, transport, industry, agriculture, forestry, tourism
- Global challenges:** climate change, ozone depletion, acidification, seas & oceans
- Values:** consumer society, health & environment, citizens' rights, our Earth in the future

Think Globally – Act Locally

Structure of the Green Pack topics:

- General (global) context
- European context
- National context
 - Links to appropriate websites
- Individual context

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Green Pack – the process

- Feasibility Study of education for sustainable development in the beneficiary country (relevance to the environmental challenges and the school curricula)
- Development of a country specific Green Pack and its promotion
- Training of teachers and Green Pack dissemination
- Green Pack up-grading, production of next edition(s), training...

THE REGIONAL ENVIRONMENTAL CENTER
for Central and Eastern Europe

REGIONAL ENVIRONMENTAL CENTER



Green Pack – the partnership

Ministries and other key players responsible on education, environment and development - at national level

Teacher training centres, NGOs, universities or scientific institutes, educational & information centres, schools - at professional level

Trainers, teachers, artists, editors, designers - at expert level

Business organizations - at international, national and local level



The Regional Environmental Center

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Green Pack web-site: <http://greenpack.rec.org>
Google: Green Pack, on line



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ZELENI PAKET - PREZENTACIJA I KONZULTATIVNA RADIONICA
MZOŠ, Donje Svetice 38, Zagreb, 21 veljače 2011., 14:00-17:00

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7	Natalija	Koprivanac	SORZO, FKIT	predsjednica				
8	Tatjana	Bakran-Petricioli	PMF-Biologski odsjek	docent	Rooseveltor trg 6, Zagreb	tatjana.bakran-petricioli@ zg.t-com.hr	01/4877718	Tatjana Bakran-Petricioli
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10	Damir	Subašić	APO	direktor	Yerska 41, Zagreb	damir. subasic@apo.hr	6177905	Damir Subašić
11	Vladimir	Lay	Institut društvenih znanosti "Ivo Pilar"					Vladimir Lay
12	Sanja	Klubička	Tehnička škola Daruvar					Sanja Klubička
13	Zdravko	Furlan	OŠ Otok	ravnatelj				Z. Furlan
14	Ana	Novina	OŠ Marije Jurić Zagorke	prof. rehabilitator	STEFANOJECKA CESTA 67, 263	ana.novina@ skole.hr		Ana Novina
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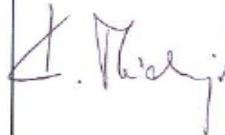
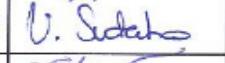
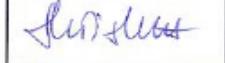
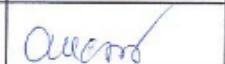
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MZOŠ, Donje Svetice 38, Zagreb, 21 veljače 2011., 14:00-17:00

#	Ime	Prezime	Organizacija	Funkcija	Adresa	Email	Telefon	Potpis
16	Marijana	Mance Kowalsky	MZOPUG	ravnateljica Uprave za međunarodnu suradnju i održivi razvoj				M. Kowalsky
17	Branka	Pivčević-Novak	MZOPUG	načelnica Odjela za održivi razvoj				✓
18	Gordana	Ruklić	MZOPUG	načelnica Odjela za međunarodnu suradnju				
19	Marina	Gršković	MZOPUG - Uprava za međunarodnu suradnju i održivi razvoj	VJEĆA SREDIŠNJA SRVJETVNIČKA MZOPUG	ZEPUBLIKE AUSTRIJE 14	marina. gršković@ mzopu.hr	3782-174	Marina Gršković
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24	Vesna	Hrvoj – Šic	MZOŠ Uprava za srednje obrazovanje	načelnica Uprave za srednje obrazovanje				✓
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	Vini	Rakić	MZOŠ	načelnica Uprave za nacionalni kurikulum				✓



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MZOŠ, Donje Svetice 38, Zagreb, 21 veljače 2011., 14:00-17:00

#	Ime	Prezime	Organizacija	Funkcija	Adresa	Email	Telefon	Potpis
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29	Marija	Ivanković	MZOŠ	načelnica Odjela za predškolski odgoj	Donje Svetice 38	mivankovic@ mzos.hr	01/4563-023	
31	Vinko	Purgar	MZOŠ	načelnik Odjela za multilateralnu suradnju	- / / -			
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28	Vinko	Filipović	AZOO	Ravnatelj				
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36	Anda	Bukvić	INTERPRETER	prevoditeljica				
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41	SONJA	OMERZO	DV "Mali princ"	logoped	Lazarska 17	imprinc@ vrtic-maliprinca. hr	2431-460	
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44								
45								

II.3. Individual consultations, February 21-25, 2011

II.3.1. Meetings with educators, teachers and experts

Ms. Maja Božičević Vrhovčak - DOOR, Society for Sustainable Development Design

Meeting on 21.02.2011.

Through dialogue to sustainable energy: experts + community (business, institutions). DOOR (abbreviation for the Croatian translation of Society for Sustainable Development Design) is a Croatian non-governmental non-profit organization, founded by a multidisciplinary group of experts - engineers, environmentalists, economists, sociologists and others - all dedicated to sustainable development.

DOOR's mission is to promote sustainability in the society as a whole - especially in the field of energy, facilitate dialogue and joint problem solving among its key stakeholders, and offer solutions for a smart and responsible development. DOOR has multiple aims:

1. promote sustainable development in the ENERGY sector, develop models for multicriteria evaluation of energy alternatives, and offer solutions to utilize energy efficiency and clean and renewable energy sources;
2. facilitate effective PARTNERSHIPS among the community, academia, businesses, government representatives, non-governmental organizations and other stakeholders, to work together on specific development problems;
3. create a NETWORK of professionals dedicated to sustainable development from which task forces dealing with specific problems could be recruited;
4. develop and implement TOOLS for measuring sustainability, evaluation and planning.

Among the most important DOOR's activities is sustainable energy promotion - awareness rising in the Croatian general public, education of specific target groups and encouraging networking and cooperation among experts interested in civil sector development in the energy sector.

Areas of potential cooperation:

- in the field of energy efficiency and alternative power sources
- existing interest towards development of educational materials and activities for older students (secondary schools)
- video-clips produced by DOOR are available to support topics of Energy Efficiency in the GP, free for use.

Prof. Vladimir Lay - Institute of Social Sciences Ivo Pilar; Croatian Environmental Education Center

Meeting on 22.02.2011.

Mr. Lay is sociologist and environmentalist with a lot of experience at national and international level. Within a project supported by the MSES on "Sustainable Development in Croatia" he developed a scientific study on "national interest for sustainable development", as well as supported the MEPPPC activities related to the UN' Decade on ESD.

Main conclusions:

- the time is inappropriate from financial point of view to expect investments in ESD materials development and dissemination;
- from another side, similar materials are very much needed, as the schools are lacking even basic materials and funds for renewal of school libraries;
- the national expertise and resources involved in ESD activities are not adequate to the needs;
- it seems that at county (regional) level it would be possible to find some support – at the least in some of the counties with more stable economy, such as Split, Rijeka, Zagreb, Istria;
- the Chamber of Commerce, business companies and public enterprises (such as Ericsson Nikola Tesla, regional water management units of *Croatian Waters*), chains (supermarkets, petrol stations) could be interested in supporting ESD activities, possibly by offering them production of an ESD educational tool for their employees (= accent on the greening of economy).

Areas of potential cooperation:

- in the field of energy, climate change, consumer society and water
- participation in the core working group to be established to assist the development of a country-specific GP for the needs of Croatia

Association PET+

Jelena Balabanić-Mavrović, president

Meeting on 22.02.2011.

Association PET+ (from Croatian, meaning literally "Five Plus", or an abbreviation of "Priroda-Energija-Transformacija"; when used in English format, the abbreviation is NET+ and stands for Nature-Energy-Transformation) is a Croatian NGO established in 1999 upon the initiative of a group of citizens who wanted to contribute in solving current problems of the society through taking active measures, in accordance to their own education, profession and interest. The organization is currently involved in projects related to health and environmental issues. The organization has been involved in the past in projects primarily orientated to health issues – the Prevention Center, for example, has been orientated towards helping drugs victims and their families by offering adaptation, rehabilitation and reintegration activities to be followed.

Healthy Eco Life is a very interesting international educational project promoting healthy life in 10 Croatian and 10 Slovenian urban schools (in Zagreb and Maribor) – the project is a common initiative of Croatian, Slovenian and British environmentalists and experts.

The project unites the efforts of schools, educators, children and parents, from one side, as well as business and institutions, from another side, in:

- promoting more sustainable practices in using organic and healthy products while cooking in class, "learning by doing" (series of practical cooking lessons in schools with 4th grade pupils, combined with an excursion to an organic farm outside of urban area, to learn about the life-cycle of bread-making);
- working with children in the way that each workshop combines all elements of person's activity (emotional, cognitive, physical), in order to bring positive feelings in children without experiencing it as obligatory "studying";
- increasing the time and efficiency of the social contacts within the family;
- promoting best European practices in this field;
- establishing contacts and networks among Croatian society interested in further promotion of healthy and 'eco' lifestyle.

Association PET+ operates through a number of experts who have very good experience in direct work with children in schools, and the project currently covers 600 pupils in Zagreb schools, with plans to expand this number further. The program has an official approval from the MSES.

Areas of potential cooperation:

- health and environment, especially providing illustrative exercises (video-clips etc.) for practical classroom activities;
- organic farming;
- prevention in the field of drugs, obesity, "slimming fashions – anorexia, bulimia";
- overcoming the current tendency for families' fragmentation.

ESD Partnership Initiative project (ESdPI): Network of Educational Policy Centers (NEPC) - Ms. Lana Jurko, NEPC president and Ms. Asja Korbar, ESdPI coordinator; Green Action - Ms. Aleksandra Schindler; Institute for Social Research; Forum for Freedom of Education - Mr. Mladen Domazet

Meeting on 22.02.2011.

A number of environmental and educational sector NGOs are working together in a regional ESD partnership initiative (<http://www.enjoined.edupolicy.net/>) aiming to:

- uncover the content of national curricula (in BiH, Croatia, Estonia, Macedonia, Kosovo, Romania, Slovenia and Georgia) with regards to ESD;
- develop and deliver training activities in the field of ESD;
- establish international cooperation and networking on ESD.

The project includes the evaluation of 4 ESD aspects:

- mapping available ESD content in curricula, developing policy recommendations for improvement;
- learning from each other (exchanging good educational examples, teaching the educational sector on environmental issues);
- development of educational modules for adults, businesses and public sector on future EU obligations in terms of ESD;
- advocacy on ESD in each project country.

A meeting with representatives of Croatian NGOs taking part in that initiative was held in order to discuss areas of common interest and activities, namely with: Green Action, Forum for Freedom of Education (included in teachers training activities) and Institute for Social Research Zagreb.

Areas of potential cooperation (although not on GP in Croatia in particular):

- exchange of information on ESD (disclosing results of country reports and policy recommendations)
- involvement of the Network in GP evaluation activities in the countries where it has been already introduced – in terms of GP content, teachers' training and impact on the school educational process

Faculty of Science of the University of Zagreb

Prof. Ružica Vuk, Ms Dubravka Spevec - Faculty of Science - Geography Department; Croatian Geographical Society
Meeting on 22.02.2011.

Ms Renata Matoničkin Kepčija - Faculty of Science - Zoology Department

Meeting on 23.02.2011.

Two separate meetings were organized with representatives of the Faculty of Science of the University of Zagreb, who are actively involved in the development/evaluation of curricular materials addressing ESD issues (Ružica Vuk) and the GLOBE program in Croatia (Renata M. Kepčija).

The following recommendations to the future Croatian GP were made:

- karst phenomena and specific issues should be included in the GP;
- the unique Croatian Adriatic coast and the islands should be paid special attention to;
- every year, there are two rounds of training of teachers on geography in primary and secondary schools – that could be used in order to support/improve the efficiency of the GP teachers' training;
- a big part of the youngest pupils (grades 1-3 in primary schools) attend educational activities every afternoon. These activities are led by teachers who need appropriate materials – a GP modification or a separate module addressing in an appropriate way children from that age group, could successfully find its audience.

Areas of potential cooperation:

- water, karst, sea coast, economic development and the environment,
- training of teachers,
- evaluation of materials.

Ms Lidija Pavić, **ODRAZ**; Ms Sladana Novota, **SMART**

Meeting on 23.02.2011.

A joint meeting with representatives of 2 Croatian NGOs – ODRAZ and SMART – was organized in the office of ODRAZ.

ODRAZ (Croatian abbreviation for Sustaining Community Development) is a non-profit NGO initiating and implementing sustainable development activities. It operates at various levels: local, national and international. The organization is cooperating with other civil society organizations, public, professional and business organizations, networks and experts. As typical activities could be mentioned:

- non-formal education for sustainable development;
- organization of thematic workshops, consultations and expert discussions;
- collection, exchange and dissemination of information and experience;
- strengthening capacities of civil, public and business sectors;
- work with media to promote more efficiently sustainable development issues;
- contribution to the dialogue with the European institutions on development issues, etc.

Special attention is paid to projects at local level as 92% of the territory of Croatia is rural while the percentage of population living there is less than 50% of total country population .

SMART (Association for Civil Society Development) is a non-profit organization supporting the development of the non-profit sector in Croatia. It implements educational trainings, technical assistance and consultations, gathers and distributes relevant information to NGOs, informal groups and individuals. SMART works also with the public and business sector for the benefit of the non-profit organizations. The organization stimulates projects promoting cooperation, mutual understanding, life-long learning etc. A lot of attention is paid through educational projects "Learning by doing".

Both interviewed NGO directors are active in the policy-making area, as members of a number of national councils and working groups dealing with the development of civil/non-profit sector, sustainable development, rural development, EU-Croatia cooperation committees etc.

Areas of potential cooperation:

- Both organizations expressed support to the possible GP development and adaptation for the needs of Croatia but expressed doubts whether their experts would have free time to contribute to the content work in the nearest future, but they might be interested to support the teacher trainings.
- Both organizations shared concerns on the possibility to find significant financial support at national level for comprehensive educational projects.
- Ms. Pavić-Rogošić is a member of the National Council for Sustainable Development and Environmental Protection, and participated in the drafting of Action Plan for ESD in the framework of the National SDDevelopment Strategy, therefore her participation could be relevant in the context of the advisory group for the GP project in Croatia.

State Institute for Nature Protection

Ms Ana Štrbenac, M.Biol., Head of the Expertise Division

Ms Andreja Ribarić, M.Agr., Senior Advisor, Department for Landscapes

Meeting on 23.02.2011.

The State Institute for Nature Protection is dealing with expert tasks of nature conservation in Croatia. The Institute was established in 2002. It carries a series of activities and projects aiming at the conservation and improvement of Croatia's natural heritage. The following more important activities could be mentioned:

- development and upgrading of an Information Catalogue presenting to the users a systematised overview of information on nature protection within Croatia;
- provision of information on the Red List of Plants and Animals in Croatia;
- presentation of the Croatian ecological network - a system of connected or spatially close ecologically important areas that contributes to conserving the natural balance and biodiversity in Croatia. It is connected with the EU NATURA 2000 network.

A number of projects aiming at environmental protection and spreading information on nature conservation and biodiversity issues have been implemented in cooperation with the European Centre for Nature Conservation (ECNC), WWF, GEF, etc. Projects have been financially supported by different donors.

The institute obtains rich information database (texts and photos) related to the natural heritage of Croatia, however, it seems videos and documentary films are not among the preferable data developed/collected by the institution.

Areas of potential cooperation:

- expressed readiness to support the development of the GP with information (primarily in the field of nature and biodiversity), and suggestions for external experts to be involved into the core expert team.
- experts from the Institute are occupied with current activities – in this context, it would be difficult to expect their active involvement in the project implementation, but rather in an advisory role, as necessary.

Udruga "Lijepa Naša" (Our Beautiful Homeland)

Doc. Ante Kutle, president; Mr. Josip Gregac, prof., programme coordinator

Meeting on 24.02.2011.

Lijepa Naša is a Croatian NGO with a long list of different environmental activities and large spectrum of interest towards different aspects of our life today. Their initial interest in “pure environmental” initiatives have recently accelerated towards other social issues such as culture, traditions and national identity values, support for the Croatian minorities living out of the country, etc.. They try to integrate SD through all their activities and produced materials.

One of the most important educational projects managed by the organization is the Eco-School Project – an international initiative of the FEE which is the organizer of such projects as Blue Flag, Eco Schools, Green Key, Young Reporters etc., and 'Lijepa naša' is their national coordinator for Croatia.

The project of particular interest, the Eco-Schools project, running in Croatia for already 13 years, is a programme for environmental management, certification, and sustainable development education for schools. It is based on a participatory and action orientated approach (learning by doing), addressing not only the pupils but the entire community (school staff, families, local authorities, NGOs, etc.). The Eco-Schools programme algorithm includes several steps that any participating school should adopt:

- establishment of an eco-school committee,

- organization of an environmental review,
- establishment of an action plan with targets and deadlines,
- implementation of the activities foreseen,
- celebration,
- monitoring, and evaluation.

Some of the themes are studied in the classroom through Curriculum Work. The whole school should be involved in practical initiatives. Each school should develop its own Eco-code, outlining the school's values and objectives and what the students are striving toward.

The concrete Eco-School activities in Croatia are being performed with the assistance of 25 regional coordinators of Lijepa Naša. Every two years, the status of the Eco-Schools involved in the programme has to be reconfirmed, and by now 266 primary and secondary schools and kindergartens in Croatia are included in the program. Together with two other educational programs (Days of Bread, Eco-Quiz), Eco-Schools are part of the official catalogue of annual educational school events, approved by the MSES.

Areas of potential cooperation:

- Common consensus was reached during the discussion that some of the Croatian Eco schools could be used for pilot testing of the draft GP materials.
- GP could be put in the function of a larger, already established program, such as Eco-Schools.
- Based on the previous experience of the organization, some of its experts could contribute to development of new educational materials (problematic environment-development cases, issues related to Christianity values and the environment, specific approaches towards other stakeholders at local level, parents-children relations, etc.)

Primary School “Marija Jurić Zagorka”, Donja Dubrava-Zagreb

Ms Lidija Žišković – biology teacher, GLOBE Program Coordinator

Ms Ana Novina – special education therapist

A short visit in a the primary school “Marija Jurić Zagorka” in Zagreb gave the possibility to discuss with teachers directly involved in the educational process, to learn their opinion and first impressions from the GP methodology applied, and the perspectives before its adaptation and implementation in Croatia. The school has taken part in previous ESD initiatives and projects, such as the GLOBE programme.

The teachers confirmed that the educational standards and educational plans¹⁰ set up by the national authorities should serve the GP implementation team while adapting and up-grading the country-specific product. The interdisciplinary (cross-curricular) character of the GP is appropriate for the Croatian school system, and should remain in its Croatian language version.

The regular meetings of “subject teachers” – such as biologists, chemists, geographers – which are organized 3-4 times per year should be taken into consideration as potential opportunities for collecting teacher feedback on the GP content, and also as potential venues when designing the teachers’ training programme.

The main impression from the visit was that there is some kind of tiredness from different educational initiatives, as systematic approach and clear perspective for efficient follow-up are very often missing. A comprehensive material such as GP was welcomed, however the predominant opinion is that it could be much better used in extra-curricular activities (groups like "young journalists", "young chemists" etc.), while in regular teaching activities which are rather strictly guided by the prescribed educational plans it could only be used as auxiliary material.

Areas of potential cooperation:

- the school could play an active role in the draft GP testing process;
- the interviewed biology teacher is willing to be part of the core group of future teacher-trainers (multipliers);
- offered to assist in providing an additional GP commenting/consultation opportunity during one of the upcoming regular meetings of subject-teachers.

¹⁰ Educational plans for elementary and secondary schools are standardised in the frame of the Croatian National Educational Standard (*Hrvatski nacionalni obrazovni standard*). Source: <http://public.mzos.hr/Default.aspx?sec=2199>.

II.3.2. Meetings with representatives of Croatian national authorities - project partners

MSES: Ms Katarina Grgec – Expert Adviser at Directorate for Secondary Education

ETTA: Ms Diana Garašić – Main coordinator of ESD activities in Croatia; Ms Marijana Toljan - Adviser

Meeting on 25.02.2011.

Two meetings were organized with representatives of the MSES – the first one in the beginning of the consultations round before the public presentation event (described above), and the second one, having concluding character and being joined by the representatives of the ETTA – in the last day of consultations, February 25, 2011.

All aspects of the GP product, the type of cooperation foreseen, and other details have been reviewed and discussed, and a short overview of meetings and consultations was presented by the REC team. The most important conclusions and agreements made are as follows:

- The GP is considered a valuable educational resource material in the field of ESD that could serve very well the Croatian school system.
- It needs adaptation and up-grading reflecting the Croatian specific needs and challenges.
- The adaptation should be consulted with the Croatian authorities (organized in an Advisory Working Group) but should be done by a core group of experts (PIT) actively involved in the drafting process.
- MSES would like to be able to influence the project development by its experts, and take care of approval procedures once the material is developed, in order to be used as teaching material - this confirming ownership of the process.
- There is a lack of similar materials for secondary schools, compared to what is available for primary schools (primary level works on ESD within a cluster of topics on "citizen education and democracy").
- There is an ongoing broad discussion on the national curriculum, in which sustainable development is in focus. Curriculum would be competence-based, and SD used as a tool at all educational levels, but it is not yet clear whether this would be a separate subject or part of (extra)curricular activities.
- The number of school units provided during the meeting (875 primary, and 429 secondary schools) differs from some preliminary statistic data that reflects the total number of schools as well as their branches - increasing in this way the real number to almost 2000.
- The school libraries (existing in most of the schools) should be also considered a GP target group.
- There is no consensus among professional educators (expressed during the public presentation as well as in the meetings) whether the GP materials should be orientated to younger grades (1-4) or the older grades (5-8) of the primary schools, or to be prepared for the needs of the secondary schools where similar materials are limited. In this context, The experts supported the idea to think about two modifications of the GP:
 - o The first one (based on the conventional GP combination of printed, video and computer based materials) to be orientated to grades 5-8 of the primary school;
 - o The second one, with a more computer-based character, to cover a larger spectrum of additional social aspects of our present life that have contradictory and decisional character – to be orientated to the secondary schools.
- The GP teachers' training program should be synchronized with traditional school teachers' training activities – that will improve the efficiency of the project.
- Future teacher-trainers (multipliers in the country that will be trained by the REC to train the other teachers on using the GP) should be recruited mainly from the lines of educators in schools. There should be a public call for expressions of interest for becoming teacher-trainers (multipliers) announced well in advance, so that the candidates could obtain school management's consent to take part in the trainings regularly over a period of time.
- For the time being, there is no real expectation that the GP project could receive financial support from the national institutions.
- There is the practice that schools cover the travel costs related to teachers attending training programmes.
- Possible donors (at national level) could be some banks (Zagrebačka Banka), international business companies, etc. – in this context, the MSES is ready to provide the REC with the relevant supporting letter(s).

Areas of future cooperation:

- Representatives of the MSES will be involved in the GP advisory working group:
 - o providing guidelines and advices during the Croatian GP development,
 - o taking part in its evaluation,
 - o advising on how to organize the teachers' training and the GP development in more efficient way.
- The institution will support the fundraising process by providing supporting letter(s).

MEPPPC:

Ms Marijana Mance-Kowalsky, Head of Directorate for International cooperation and Sustainable Development
Ms Branka Pivčević Novak, Head of Department for Sustainable Development

Ms. Marina Gršković, Senior Adviser at the Dep't for Sustainable Development

Ms. Marina Prelec, Adviser at the Department for International Cooperation

Meeting on 25.02.2011.

A meeting with representatives of the Croatian MEPPPC was organized at the end of the long line of stakeholder consultations in Croatia.

The following aspects of the GP initiative were covered:

- The REC GP Team made a retrospection on the results from the different meetings held during the consultations period;
- Ms Mance Kowalsky- shared her vision that the GP is a needed product, and the MEPPPC agrees with the scheme proposed for its adaptation (through an Advisory Working Group and a core PIT);
- the MEPPPC is ready to recommend valuable experts who could contribute to the GP adaptation/upgrading process, and especially to the development of the national context of the topics included in the product;
- the MEPPPC re-confirms the readiness to provide in-kind support as indicated in the endorsement letter, as needed/possible (in terms of providing venues for events, representatives for the work of the advisory group etc.);
- the MEPPPC agreed on the enlarging of the spectrum of topics with some new themes such as: karst, islands, land mines, etc.

II.4. Green Pack Questionnaire

Summary of responses collected in individual meetings, e-mail communication and the public event.

Key to abbreviations in answer-sections:

- IM: Dr. Ivan Martinić, professor at the Forestry Faculty in Zagreb (teaches Forestry Policy and Legislation; former deputy minister for environment, in early 2000-ies - in charge of nature protection), recently author of educational CD-quiz game on forest protection, and other didactic materials on forests
- RMK: Renata Matoničkin Kepčija, freshwater professor from Faculty of Science, expert in GLOBE program
- MBV: Maja Božičević-Vrhovčak, NGO DOOR (dealing with energy issues)
- Anonymous: comments collected during the public presentation event

1. The table below contains 22 topics on environment and development included in the current GP. Please indicate whether, in your opinion, these topics should be included in the Croatian GP as well:

	Nº	Topic	Appropriate	Could be (mark with ✓)	Inappropriate
Component s	01	Air	✓		
	02	Water	✓		
	03	Soil	✓	✓ (IM)	
	04	Biodiversity	✓	✓ (IM)	
Pressures	05	Urbanisation	✓		
	06	Noise	✓	✓ (RMK, IM, etc.)	
	07	Waste	✓		
	08	Chemicals	✓	✓ (IM)	
Human activities	09	Energy Production	✓		
	10	Transport	✓	✓ (IM)	
	11	Industry	✓	✓ (IM)	
	12	Agriculture	✓	✓ (IM)	
Global challenge s	13	Forestry	✓		
	14	Tourism	✓		
	15	Climate Change	✓	✓ (IM)	
	16	Ozone Depletion	✓	✓ (IM)	
Values	17	Acidification	✓		✓ (IM)
	18	Seas and Oceans	✓	✓ (IM)	
	19	Consumer Society	✓		
	20	Health, Safety and Environmental Protection *	✓		
	21	Citizen Education / Education for Citizenship *	✓		
	22	Our Earth in the Future	✓	✓ (IM)	

* Topic title modified by respondents in line with the terminology of the National Framework Curriculum.

2. Please consider if some of the following topics should be included - prioritise and mark with ✓

New topics:	yes	no
23 Population Growth and Limited Resources 2 (anonym.)	✓ 3 (IM) (ETTA)	
24 Poverty and Environment 1 (anonym.)	✓ (RMK; ETTA)	✓ (IM; MSES)
25 Desertification 3 (anonym.)	✓ (ETTA)	✓ (IM; MSES; anonymous)
Others (please specify):		
Sensitivity of Karst Ecosystems	✓ (MBV)	
Rivers and Lakes	✓ (MBV)	
Religion and Environment	?	
Access to Information on the State of Environment	✓ 1 (IM)	

Ways/models of involvement	✓ 2 (IM)	
Islands (as Croatian geographical specificity)	✓ (MBV)	
New themes in the context of the Croatian Framework Curriculum: Knowledge, Responsibility, Solidarity and Identity, should as values be reflected in all topics (= GP content should be brought in accordance with the National Framework Curriculum)		

3. The current GP structure includes four main components. Please prioritise them in the context of their applicability to the Croatian education/school system? Mark appropriateness with ✓

Handbook	Very appropriate	Appropriate	Not very appropriate
	✓	✓	
Additional comments:			
IM: The entire GP seems somewhat too ambitious (to address all topics, educate and inform about everything), it is filled with content, seems to leave an "over-bearing" image similar to many materials that the school system imposes on today's generations (which, contrary to that, like to be more easy-going).			
MSES: In the final Croatian version this should perhaps be called "Guide through topics" etc., not "Teacher's Manual". Topics and content should follow the National framework curriculum.			

CD ROM	Very appropriate	Appropriate	Not very appropriate
	✓	✓	
Additional comments:			
IM: Welcome and usable format, but only as illustration or an opening element for further discussion (pedagogical experience shows that even brilliantly prepared PowerPoint and Flash content cannot replace a simple sketch/drawing on the board followed by a conversation/discussion into which you can include all participants).			

Film collection	Very appropriate	Appropriate	Not very appropriate
- in DVD format	✓	✓	
- in videocassette format			✓
- in CVD format	✓	✓	
Additional comments:			
IM: same as above - usable format, but only as illustration or an opening element for further discussion			

Dilemma Game	Very appropriate	Appropriate	Not very appropriate
	✓	✓	
Additional comments:			
IM: pedagogically and didactically best tool. Preferred also in the subject that he teaches at Forestry Faculty - Forestry Policy and Legislation, and it shows good results.			

With the next set of questions we wanted to obtain more precise information on the current Croatian education/school system, as well as the activities included in the school curricula for EE and, where possible, ESD:

4. Does the Croatian educational system have any educational standards for EE? (please specify for which grades and within which subjects)

MSES: Pre-school education is systematically working on environmental education of children; there is also a manual on how to approach pre-school children regarding sustainable development. GP topics in Croatian educational system are already present throughout the Educational Plan and Program for primary schools (from 2006) as integrative content titled Education for Environment and sustainable development, with modules prescribed within thematic areas of Human rights and democratic citizenship; it is implemented in subject teaching as well: Nature and society in lower primary school grades, and natural science subjects in higher grades of primary and in secondary schools. Also addressed in extra-curricular and out-of-school activities, as well as in project-teaching.

5. Does the Croatian educational system have any specific training materials on EE for teachers? for students? which grades? (please specify)

IM: Targeted educational materials such as printed textbooks, manuals or "scripts" are not available so far. Certain thematic areas are addressed at a satisfactory level through some general-type publications/books (Glavač, Muller,...).

ETTA: No specific materials exist, but there are some materials related to certain topics covered in some teaching programs, as well as auxiliary teaching tools and materials attached to special programs (Eco-Schools, GLOBE....)

MSES: GP Croatia content and terminology related to SD and environmental issues should be unified/harmonised with the other supplementary materials listed here, that are being used. This concerns various textbooks and manuals for teachers and students issued by the ETTA, e.g. Consumer protection (2009) - manual for teachers, textbook for elementary and secondary students, module Basics of Democracy (2010) - textbook for students, module Project Citizen - Developing an Entrepreneurial spirit (2009) - teacher's manual; modules Human values and investigating humanitarian law, volunteering work and social solidarity - manuals for teachers and students.

Anonymous: brochure Sustainable Consumption and Production

6. Do any specific school subjects in Croatia cover such issues as: ecology, environmental protection or sustainable development?

IM: Not before higher (university) education. At the Faculty of Forestry there are Forest ecology; Environmental protection and sustainable development; Managing protected nature areas – planning, development and sustainability, etc.

MSES: National Framework Curriculum anticipates an inter-subject (inter-curricular) topic: Health, safety and environmental protection, which is addressed in all educational cycles.

7. Are there any particular schools in Croatia with a specific curriculum on environmental protection or sustainable development?

RMK: No, there are only schools which are more active and aware than the others, by way of participation in already mentioned programs like GLOBE, SEMEP, Eco-Schools.

IM: There are study programs at higher educational institutions (universities, open universities).

ETTA: Yes, there are some secondary vocational schools with targeted programs, like Environmental Technician in the area of chemical technology; Sanitary Technician in the health education sector. Vocational schools in the construction sector are addressing sustainable construction/building, energy efficiency in construction (e.g. Secondary Economy School in Čakovec), but the list is not exhausted here.

8. Do any school practices in Croatia include:

- extra-curricular educational programmes (including optional subjects),
- green (outdoor) school activities,
- conducting activities on notable environmental days,
- school activities for the cleaning of classrooms and the school environment, etc.

RMK: Optional subjects usually don't include this. There are only additional extra-curricular activities which are attended by students/children on a voluntary basis. Eco-dates are celebrated/mark in most schools, as well as there are outdoor activities. In schools where education on environment, nature and sustainable development is present in extra-curricular programs this is always due to the teachers themselves/enthusiasm and willingness, and the individual school's management.

MSES: "School in nature" – regular outdoor activities mainly for recreational purposes, conducted in lower age-ranges of elementary schools, concrete content is dependent on the teachers.

9. Are Croatian teachers and educators familiar with the concept of ESD?

RMK: Yes, seminars are organised on this topic where teachers get some guidelines how to include these topics into teaching curricula and extra-curricular activities. Organised by the ETTA, and mainly attended by science/nature/technical subject teachers.

ETTA: Probably more familiar are those who in their regular teaching programs are more likely to address the related topics (geography, chemistry, biology, physics....- mainly natural science and technical subjects). Annual teacher conferences are organised and sometimes cover the topics that can be said to contribute to general awareness...

MBV: With some exceptions, I believe they are not familiar enough.

10. What is the involvement of Croatia in the preparation/implementation of the European Strategy on ESD and the UN Decade on ESD?

Anonymous: Declarative; only legislation/policy-related.

11. Please mention briefly any international projects/programmes on EE and/or SD implemented in Croatia recently. What are their main achievements? What are their weaknesses? In what way could/should the GP project make a difference?

ETTA: GLOBE, SEMEP, Eco-schools - mainly activities take place extra-curricular, although some program parts could be incorporated into the regular teaching program. Each of these programs has educational aspects for which a material like GP could be well used.

RMK: GLOBE program - Students that get involved in the GLOBE program are able to perform measurements for certain environmental parameters themselves, send results into the central database online and interpret the data, make their own conclusions. Also with the help of tutors/coordinators often work on various projects which enable them to adopt a scientific approach and methodology. They are encouraged to present their results to wider audiences, to involve some potential sponsors into their work etc. Materials needed to implement the program are well-developed, largely translated into Croatian. There are regular seminars for GLOBE coordinators, as well as competitions and conferences among GLOBE schools. But this program includes only a part of students. GP, if supported by ETTA and MSES, would need to reach a wider student population. Based on what I heard and learnt about GP, I believe it's a great format exactly for this task. Activities are well designed and developed and can be a valuable help to teachers, as well as beneficial for students in many ways.

IM: GP development process in Croatia has to acknowledge the fact that it should be done as if we are doing it in Italy or Spain (i.e. Western Europe), and not like we are doing it in Lithuania, Estonia, Bosnia etc., meaning that a very refined and sophisticated approach would be needed in each aspect. This means that GP Croatia should take into account Croatian mentality of comparing ourselves with western Europe rather than to east or central Europe, and that "international" examples in GP should be selected in this way.

MSES: Young Reporters for the Environment; Green Key; Learning about Forests - additional international programs started in Croatia by Lijepa Naša (who also have a developed publishing activity targeted to school children).

MSES additional comments:

- cover the entire Croatia with GP;
- training should be targeted to heads of regional (county-level) teacher working groups for class-teaching, and heads of regional subject-teaching working groups (per each natural-science-subject);
- GP not seen as separate educational content, but as auxiliary tool in individual subjects; a survey among the heads of regional (county-level) teacher working groups would be useful for getting additional feedback on this;
- Two GP pieces per school;
- Two GP versions: (i) full package - all topics - for higher primary school grades; (ii) selected parts of the GP for secondary schools;
- all elements of GP (handbook, CD-ROM, films collection, dilemmas) considered "appropriate".

ETTA additional comments:

- all elements of GP (handbook, CD-ROM, films collection on DVD; dilemmas) considered "very appropriate"; only the film collection in video or CD format is considered only "appropriate";
- cover the whole Croatia with GP (educational curriculum is the same for the whole country, so there is no reason for regional application), possibly with a number of selected pilot schools for the start (so any possible modifications could be made before extensive production and printing is done);
- training of teachers - include up to 3 teachers per school (ideal would be to be able to include 5 per school, but we probably cannot count on such a big response);
- one (or two) GP pieces per school (in hardcopy) would be needed, plus additional CR-ROMs and DVDs (at least 2-3 more per school);
- all GP current topics are relevant for higher primary school grades; more controversial topics are more appropriate for secondary schools (e.g. dilemmas) so they could be discussed in class.

ANNEX III. Detailed Implementation Plan of the Green Pack in Croatia

SUMMARY

Programme Title

Green Pack in Croatia: Supporting Education for Sustainable Development

Project Location

Croatia

Target Group

The project targets the following primary groups:

- Primary school teachers and pupils (ages 11-14), and
- Secondary school teachers and students (ages 15-17).

Programme Goal

The goal of the project is to support in a practical way the Education for Sustainable Development activities in Croatia through the development and adaptation of a tailored and flexible multimedia educational set.

The concrete goal is to improve the environmental situation in Croatia by:

- Raising the pupils' and teachers' awareness of environment and development issues, and via them that of society as a whole;
- Shifting from awareness to personal and group activity to restore environment in the context of the sustainable development concept, and
- Investing in human resources and capacity-building in terms of education, teachers' training and public awareness-raising.

Programme Objectives

The overall objective is to build capacities, transfer know-how and establish the basis for further developments in the field of education for sustainable development (ESD).

The programme will involve the following main activities, which also represent the key objectives:

- Prepare educational resources entitled:
 - GP (multimedia set of printed, video and computer based materials) - for use in primary schools in Croatia;
 - GP Senior (multimedia computer based materials) – for use in Secondary schools in Croatia;
- Host launch event in Zagreb – with the participation of representatives of national and regional institutions dealing with EE, ESD and environmental protection, local authorities, NGOs, teachers, as well as other educators. TV and print journalists will be invited to a press conference;
- Train Croatian teachers/educators how to best implement the GP in the classroom, and organise distribution of the resource pack to schools..

Main Activities

The Regional Environmental Center for Central and Eastern Europe (REC) with the support of donors, and in cooperation with the Croatian Ministry of Science, Education and Sport, the Croatian Ministry of Environmental Protection, Physical Planning and Construction as well as local experts, will implement a project entitled “Green Pack in Croatia: Supporting Education for Sustainable Development”.

The project will develop two educational packages:

- GP – including teachers' handbook with lesson plans and pupil fact-sheets, CD-ROM, a collection of educational films and video-clips, and dilemma game,
- GP Senior – including CD-ROM and web-site

The both are designed to raise awareness, and to foster dialogue and action.

A training of trainers workshops and teachers' training programmes in how to use the GP as an educational tool will also be provided by the project.

Programme Period

24 months

Programme Budget

EUR 377,210

Implementing Organisation

The Regional Environmental Center for Central and Eastern Europe (REC):

- REC Head Office in Szentendre, Hungary;
- REC Country Office in Croatia.

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III.1. Background

Experience from Previous GP Developments

The GP project represents a tried and tested model of development of education materials and of training. Needless to say the current project has benefited from the experience of carrying out this work in several European countries (Poland, Bulgaria, Hungary, Czech Republic, Slovakia, Russia - the regions of Moscow, St. Petersburg and Komi Republic, Albania, Azerbaijan, Turkey, Macedonia, Serbia, Kosovo, Montenegro, Bosnia and Herzegovina, Ukraine and 3 countries from Central Asia – Kazakhstan, Kyrgyzstan and Tajikistan). Currently, there are on-going GP activities in Ukraine, Macedonia and Central Asia.

The main lessons for implementation relate to four main areas:

- local partners and stakeholder involvement is important,
- tailoring of the materials to the local needs, conditions and methods of teaching, plus building on the existing curricula are crucial,
- training of teachers in Education for Sustainable Development (ESD) is required to help them to utilise the materials more effectively and
- dissemination of the materials must be linked to the training phase to enable proper use of the packs.

Application towards Education for Sustainable Development

With the advent of the UN Decade on (ESD) beginning in 2005 and the adoption of the UN/ECE Strategy on ESD at the Vilnius UN/ECE Joint-Ministerial Conference in March 2005, and in the context of the political process “Environment for Europe”, the countries of Europe are challenged to fully integrate ESD into all strata of education. This project seeks to practically address a part of that need by implementing in Croatia a proven ESD tool and to assist local actors in fulfilling their roles in raising awareness of sustainable development.

Environmental Literacy in a Pan-European context

Education and raising awareness are viewed as fundamental tools in changing patterns of social and economic behaviour as it affects the environment by integrating environmental concerns and the concept of sustainable development into people's consciousness from a young age. As environmental education is complex, interdisciplinary and cross-sectoral, it is necessary to integrate various disciplines and, therefore, a number of stakeholders as well. It should focus on strengthening citizens' rights so that civil society can play a full and active role both in the formulation of policies and in their implementation. As the need grows for the public to understand the connections between environmental, social, economic, safety and security concerns, new approaches and increased, intensified efforts are called for in education and in raising public awareness.

Teachers, Students, Families and the Society

The school classroom provides ample opportunities for children and young people to develop social responsibility and practical capabilities for their future roles as adults. EE and ESdD can enable them to make a commitment to society and to care for the environment, through an awareness of the interconnections between humans and their habitat. Via the teachers and students, the main messages of EE activities will also be transferred to other members of the family and society. Civil society organisations have been instrumental in developing the tools and training to bring environmental issues into the formal education setting.

III.2. Challenges

The sort of education that we need now to save the environment is not just a matter of disseminating information, as there is already a lot of information available and accessible everywhere. The education needed, rather, is the sharing of wisdom. Our knowledge of the natural world has raced far ahead of our wisdom in using it. As a result, we are razing our forests, grinding down our mountains, siphoning off our rivers, paving our plains, modifying our climate, polluting our air and tainting our own blood. We are producing, in other words, a world none of us wants.

A more specific role for educators lies in teaching children and adults about the environment — how it functions, how they depend on it and how they affect it. Children in particular respond to these lessons. The seeds of understanding planted now will produce concerned citizens in a generation's time.

Another purpose of education is to give people the tools they need to become responsible citizens. Teaching students about the environment merely extends the understanding of citizenship to encompass their responsibilities as citizens of Planet Earth.

The present project aims at enabling the Croatian teachers and their students to make a commitment to society and to care for the balance between environment and society development. Particular attention will be given to those environmental and development issues that have been given priority by National Environmental Action programmes (NEAP) and other national programmes.

The GP is much more than a traditional education tool. It emphasises the formation of new values in students and the setting of a new model of behaviour at school, at home and in society rather than simply the accumulation of knowledge. In this context, students are, above all, partners with the teachers in the accomplishment of various activities, discussions, role-plays and decision-making. In this respect the project also aims at fostering active citizens, willing and able to participate in environmental decision making. Well informed citizens are a powerful driver for sustainable development. As consumers they make choices and drive the market for environmentally friendly products and services, and as citizens they take part in decision making processes and affect governments through their voting power. It is also our belief that well informed and empowered citizens are a guarantee for democracy, stability and security.

The REC will implement GP in Croatia in cooperation with local partners: representatives of national institutions – the MSES and the MEPPPC in advisory roles, as well as with the ETTA, other professional educational organizations, NGOs and individual experts as contributors in the development and adaptation of the GP content for Croatia (in environmental and educational aspects) and the conducting of teacher trainings.

III.3. Detailed Implementation Plan

III.3.1. Goal

With implementing the GP in Croatia, the REC would like to support in a practical way the Education for Sustainable Development activities in Croatia through the development of an adapted and locally adjusted, flexible multimedia educational set for each territory. The concrete goal is to improve the environmental situation in Croatia by:

- Raising the pupils' and teachers' awareness of environment and development issues, and via them that of society as a whole;
- Shifting from raising awareness to personal and group activity to restore environment in the context of the sustainable development concept, and
- Investing in human resources and capacity-building in terms of education, teachers' training and public awareness-raising.

To achieve that, the GP Team will:

- apply the already tried and tested GP methodology of development and dissemination of education materials, as used in other countries in transition;
- co-operate with valuable and knowledgeable local partners and stakeholders;
- adapt the educational materials to the local needs, conditions, curricula and methods of teaching in the context of on-going national programmes and activities on sustainable development;
- develop special texts and educational materials reflecting the environmental and development challenges that Croatia is faced today with.

III.3.2. Objectives

The overall objectives are to build capacities, transfer know-how and establish the basis for further developments in the field of ESD.

The programme will involve the following main activities, which also represent the key project objectives:

- Prepare 2 sets of educational resource materials entitled:
 1. GP (multimedia set of printed, video and computer based materials) - for use in primary schools in Croatia;
 2. GP Senior (multimedia computer based materials) – for use in secondary schools in Croatia;
- Host launch event in Zagreb introducing the Packs – with the participation of representatives of the national institutions dealing with EE, ESD and environmental protection, local authorities, NGOs, teachers, as well as other educators. Television and print journalists will be invited to a press conference;
- Train Croatian teachers/educators how to best implement the GP in the classroom, and organise distribution of the resource pack to schools. .

III.3.3. Target Groups

The programme targets the following primary groups:

- Teachers and pupils (ages 11-14) – users of the GP,
- Teachers and pupils (ages 15-17) – users of the GP Senior, and
- Educators on environmental protection and sustainable development.

Furthermore, although not a primary target group, the programme also expects to have a direct impact upon the level of environmental literacy of the Croatian society as a whole. The transfer of information and experience on education for sustainable development to non-participating local schools, as well as other local players and partners outside the school system, such as municipal bodies, media, research institutions, environmental authorities, business, NGOs and children's families will also be encouraged. This will ensure a multiplier effect for the results of the programme, as well as provide an opportunity for peer review and feedback. These groups will therefore become part of the "secondary" target group of the programme.

III.3.4. Assumptions and Risks

- The success of the project will depend on the ability to mobilize institutional support and understanding from the authorities of Croatia. The project and the GP products must be accepted and approved by the relevant authorities.
- Teachers must use the GP materials in their teaching.

III.3.5. Methodology

The REC will apply the GP methodology, employed in previous GP projects. To efficiently and effectively implement the project, the REC will develop the relevant organizational structure. The project will last two years and consists of three major phases:

- Development and promotion of a country specific GP (for primary schools) and a GP Senior (for secondary schools) in Croatia.
- GPs' promotion and training of Croatian trainers.
- Training of teachers and dissemination of the GPs in Croatia.

The development of the GP in Croatia will follow the same REC methodology that was successfully employed in previous GP projects. This involves:

- Utilising the REC's expertise on concerns and challenges related to environment and sustainable development issues;
- Establishing partnerships with environmental and educational organizations from Croatia - at national level;
- Working with educational professionals from Croatia to ensure educational standards are met and the GP is relevant to national curricula;
- Consulting Croatian environmentalists to provide sound and accurate information on environment and development issues;
- Involving professional training centres from Croatia to achieve high efficiency of the teachers' training process, and
- Using the best content available worldwide to visualise the materials and make them interactive and attractive.

It is envisaged also to introduce the concept of sustainable development by identifying local effects on the global environment (and *vice versa*) and an indication of the role of pupils/citizens in protecting the environment, while also paying special attention to the age, gender and social identity of target groups.

III.3.6. Organisational structure

The project foresees the following structure for the REC project employees:

A. Project Management (PM):

- There are 4 positions foreseen for the employees from the REC:
 - Project Director/ESD expert – responsible for overall coordination and supervision of the activities foreseen, reporting to the donors, coordinating the GP development, production, etc. The specific role of this employee is to be responsible for the **development of updated and country specific GP product**;
 - Project Supervisor - responsible for overall **quality control** of project implementation;
 - Project Manager – responsible for national coordination of the activities foreseen, reporting to the donors, organizing various GP development and production activities; organization of launch events, etc. The specific role of this employee is to **coordinate the activities at national level** with the production cycle, to keep donors informed, prepare all kinds of reports, coordinate implementation of teacher training workshops, etc.;
 - Project Assistant – responsible for all **logistics** related to the organization of meetings, production and dissemination of materials, as well as logistics related to the organization of teacher training workshops in Croatia.

B. On the GP Products' Development (Work on Content):

- REC experts in the field of environment and development (such as: environmental components - water, air, soil, biodiversity; threats to the environment - waste, urbanization, etc); human activities affecting the environment - energy, transport, industry, etc; global challenges – climate change, population growth, etc; or values and other social aspects related to environment and the development of the present European societies) will be responsible for:
 - Upgrading and updating the already developed GP content – in the context of the intensive development of some of the topics mentioned above;
 - Work on the development of the regional Croatian context of all GP topics (e.g. from the perspective of belonging into the SEE region), as the national experts mainly tend to use the nationally-focused approach;

- In addition to that, REC experts will deliver the first 2 teacher training events - train-the-trainer workshops in Croatia, in order to train a group of Croatian educators to become multipliers for the subsequent 45 teacher trainings on the use of GP materials in schools in an interdisciplinary manner;
- Designer – will be responsible for the development of the same quality GP products for Croatia, similar to the families of already 18 different GPs' developed in the last 10 years;
- Proof reader – This REC professional editor will be responsible for the development of an English version of all GP CD-ROMs reflecting the specific texts on Croatia.

III.3.7. GP Development and Promotion – Phase A

Duration: 14 months

A.1. Establishment of the PIT

A kick-off meeting will be organised in the REC Country Office in Zagreb with the participation of the PM, and key experts who have expressed interest in cooperation during the feasibility study. Its first task will be to:

- explain and discuss in details the character of and challenges before the GP project;
- adjust and approve the action plan and the project time frame.
- to discuss on how to optimize the local and national support during the “GP in Croatia” project implementation.
- Appoint PIT members and their responsibilities and concrete tasks.

A.2. Scoping Meeting at National Level

Meetings of the PM, PIT with representatives of the relevant national institutions and key experts in the field of EE and ESD in Croatia will be organised in Zagreb. Discussion will focus on the programme methodology, the structure of the GPs, and the identification and approval of crucial for Croatia environmental and development topics and challenges. Different options for the integration of the GP in national curricula will be discussed as well.

A.3. Establishment of the National GP Task Force (NGPTF)

The National GP Task Force will be established. It will include representatives of PM, PIT and key national institutions dealing with EE and ESD in Croatia.

The main responsibilities and tasks for NGPTF will be to:

- provide PIT with guidelines on the GP content and development;
- evaluate the draft GP products and advise on adjustments (if needed);
- assist the efficient organization of teachers' training and GP dissemination within Croatia.

A.4. Action Plan Adjustment

An adjusted Action Plan will be prepared, reflecting the results and agreements achieved within the work of PIT and NGPTF.

A.5. Selection and Translation of GP materials

A selection of the most appropriate for the situation (in terms of environmental challenges and sustainable development) in Croatia and successful GP components from the REC educational materials already available in 18 languages and their translation will commence. That includes:

- Texts from the REC GP teacher's handbook, pupil fact-sheets, CD-ROM and dilemma game will be translated into Croatian language.
- A small quantity of printed materials will be printed out for the further evaluation needs of the PIT and the NGPTF.

A.6. Adaptation and Upgrading

- The PIT will divide the GP adaptation and upgrading work in different thematic topics such as water, nature, air, health, social aspects and other relevant subjects. Experts in environmental education from national institutions, universities, NGOs and educational centres will be invited to evaluate the most successful GP components and to propose adaptation and up-grading texts in the relevant Croatian national context. An analysis of the existing school resources (computer equipment, projector software, electronic networking technology) will help indicate in which form the educational resources may be utilised.
- The REC experts involved in the GP upgrading together with the PIT will propose areas and topics that need further development and/or upgrading. The selection and development of new video- and interactive materials will be discussed as well.
- The exact format of the Croatian country-specific GP will be finalised and presented to the NGPTF for discussion and approval.
 - Remark: Based on the success achieved with the REC's previous educational GPs, and the data collected during the Feasibility study in Croatia, the following product might be envisaged:

GP (for primary schools)

Structure

The GP includes about 20-25 topics related to environmental protection and sustainable development, divided into five chapters: 1) Environmental Components: air, water, karst, soil, biodiversity and landscape; Adriatic islands; 2) Threats to the Environment: urbanisation, noise, waste, chemicals and environmental accidents; 3) Human Activities and Impacts: mining, energy, transport, industry, agriculture, forestry and tourism; 4) Global Challenges: climate change, ozone depletion, acidification, desertification, deforestation, population growth and scarce resources, poverty and the environment, and issues affecting seas and oceans; 5) Values: ethics and values related to consumerism, human health, environment and safety, gender issues and the environment, education and the environment, citizens' rights and responsibility for the Earth's future, and other social aspects. Each of the main GP components – the CD ROM, the teacher's handbook, the DVD film collection and the dilemma game – will follow the same structure.

Teachers' handbook

The handbook is intended primarily for teachers and their students (ages 11-14). Its core elements are the lesson scenarios that are recommended to be used in combination with the other components of the GP: the film collection, CD-ROM, and dilemma game. Each of the environmental topics is covered by one or more of the lesson plans. The lesson plans are structured to provide users with information about the major concept, relevant subjects, materials needed, time and place, objectives and methodology. The introduction presents basic information on the issue and users are advised to look for more information in the relevant section of the CD-ROM. Before an activity begins, teachers can consult various fact-sheets and schemes at the end of each lesson plan, which could be photocopied and distributed. A table presenting schematic information on environmental topics, lesson scenarios and their appropriateness to the different school subjects, as well as the recommended video films and clips, is enclosed at the end of the handbook. The activities described in the handbook are meant to guide, rather than being compulsory. They are intended to stimulate the teacher's imagination and lead to the organisation of events similar to the ones suggested, but that would meet the particular needs and abilities of students.

CD-ROM

The CD-ROM is specially designed for teachers and educators working in the field of environmental protection and sustainable development. It provides information on the main environmental topics structured as follows: general information on the topic in its global and national context, a description of the challenge and how to overcome it, and what individuals can do. The information is presented in texts, pictures, photos, maps, interactive tables and illustrations, tests, glossaries and video clips. Links to useful national and international web sites are also provided throughout the CD-ROM. The lesson plans, which are the same as those in the handbook, can be downloaded as a PDF file and used in classroom activities.

Film collection

DVD-format collection of video clips, and educational and documentary films are included. Information about which of these relate to particular environmental topics can be found in the summary table enclosed at the end of the teacher's handbook.

Dilemma game

A number of case studies (one for each environmental topic) are organised as a dilemma game. Each case study presents a situation and a number of possible choices for dealing with the problem, as well as comments on the positive and negative aspects of each answer. By working through the dilemmas, teachers and students can engage in in-depth discussions on particular aspects of the conflict between environmental protection and economic development, while simultaneously training themselves to understand and respect different opinions and to build consensus.

GP Senior (for secondary schools)

This product will have the same structure (in terms of topics included) as the GP for the primary schools. It will be based on three main components – CD-ROM, DVD collection of films and Guidebook for Teachers.

The CD-ROM will be similar to the CD-ROM prepared for primary school – however, its information will be more comprehensive and appropriate for older users. Specific attention will be paid to contradictional cases, dilemmas and data that could provoke a discussion, brainstorming, and dilemma-solving.

The DVD-Film collection will include video-materials appropriate for the relevant age group.

The Guidebook for Teachers will provide teachers with concrete instructions how to organise the educational process by using the CD-ROM and the film collection.

A.7. First draft preparation of the GPs

- The PIT will assign two experts selected to contribute to the development of a country specific products to develop/author specific texts:
 - Aiming at the adaptation of the already existing lesson plans, dilemmas, pupil fact sheets, outdoor games, role plays, etc;
 - Related to new lesson plans, dilemmas, pupil fact sheets, outdoor games, role plays, etc;
 - Related to the development of a specific CD-ROM national context (providing country specific information on each of topic).
- The PIT and the NGPTF will advise authors (if needed) on the main environmental themes to be incorporated, ensure that the breadth of the key issues are adequately covered, highlight good practices in environmental management, and indicate local responses that can be adapted into inside and outdoor classroom activities, at home, in cooperation with municipal organisations, etc. In particular, local environmental issues in the context of their contribution to global environmental problems will be considered.

The PIT will assign to the REC experts involved in the project implementation the up-grading and updating the already developed GP content – in the context of the intensive development of the European policy on sustainable development;

Initial editing of the translated and newly-created texts will be done in order to unify terminology, and adjust style for the specific target group – teachers and their pupils.

A.8. Independent Review

An independent review of the first draft content will be hosted, during which materials will be circulated by the PIT to the NGPTF or/and experts appointed for review and approval. Particularly important is the

endorsement of the relevant national institutions, dealing with EE and ESD, since this will have a particularly important impact on the consequent acceptance and use of the GP.

Through the NGPTF, a number of experienced school teachers will be approached for pilot testing of the draft materials. Teachers will be expected to provide critical feedback. In addition, through this phase the PIT in cooperation with the NGPTF will attempt to answer the following questions:

- Should the content of the product be improved, and if so, how?
- How appropriate are the different GP components for classroom use?
- What training is required for teachers?

A.9. Work on the Second Draft

The work on the second draft would be based on the answers to the questions above. This should enable the PIT and the experts to fine-tune the content of the GP to meet the needs of its target audience. During this stage, the various components (teacher's lesson plans, pupil fact-sheets and CD-ROM texts) will be adjusted following the recommendations of the evaluators. New additional material will be written and drafted by partners (local and national). The layout of the materials and CD-ROM will be devised. This will involve a great deal of interaction among the project partners.

Final editing and proof-reading of all texts as well as final design of the GPs will follow. At the end, the GP master version will be prepared. Finally, a last copy-edit for language correctness will be carried out.

A.10. GP Production

After having obtained the final approval from the Ministries (or/and the relevant bodies), production of:

- 1,750 copies of the GP (for the needs of primary schools - 2 GPs per school), and
- 1,950 copies of the GP Senior (4-5 GPs per school).

will commence, corresponding to the number of schools.

The GP Senior will include 1-2 full cardboard GP packages plus additional quantity of CR-ROMs. As the focus for secondary schools is on multimedia approach, a bigger quantity of CD-ROMs can be provided, as these entail less costs than the full cardboard package.

The GPs' production will follow the principle of minimum financial costs at the best quality and optimal transportation costs.

III.3.8. GP Launch Event and Training of Trainers – Phase B

Duration: 2 months

B.1. National launch event

A launch event will be held in Zagreb. The location could be a school, museum or a public hall. Representatives of the national institutions dealing with EE, ESD and environmental protection, local authorities, NGOs, teachers as well as other educators will be invited to attend. Television and print journalists will be invited to a press conference. This is expected to arouse the interest of both schools and students. The exact format of the launch event will be finalised only after the preparatory discussions with the relevant national institutions have taken place. However, based on the REC experience in the previous GP's beneficiary countries the following 2-hour scenario might be envisaged:

- official part with short interventions of representatives of the national institutions dealing with EE and ESD, donors and GP developers as well as a short demonstration of the GP;
- 'question and answer' session allowing journalists and educators presented to obtain more concrete information on the product and the plans for its dissemination in future;
- informal part allowing the participants to have informal discussions and to test the GP.

B.2. Development of draft teachers' training programme

The development of 2 six-month training programmes aiming at the GP dissemination within the primary and secondary schools will be prepared in detail by PIT and analysed together with the relevant national institutions.

B.3. Training of Trainers Workshops

Two(2) two-day “Training for Trainers” workshops will be organised in Croatia addressing local experts and educators who will be involved in the implementation of teachers training programmes addressing respectively primary and secondary schools. The training will train approximately 30-40 educators and educational methodologists (in average 15-20 participants per training workshop; mainly from the existing educational structures and networks in Croatia). Three trainers (one external and two local experts) will deliver the training.

The training starts with a general session on the background to EE and ESD, followed by an introduction to the GP as a tool and then how to develop EE and ESD lessons. The training will involve working in smaller groups, and finish with a concluding general session.

III.3.9. Training of Teachers and Dissemination – Phase C

Duration: 8 months

C.1. Development of Detailed Training Programme

The PIT will develop a precise documentation about the schools divided into regions, the teachers/educators and the type, the structure and the length of the workshops. The involvement of NGPTF will be crucial in gathering data about the schools (urban or rural inhabited place, availability of computers in each of them, their interest in involvement in the project, etc). Although the project foresees the organisation of 45 workshops with a total number of 1,300 participating teachers/educators (in average 25-30 participants per workshop), the project anticipates the possibility that higher number of schools and teachers will express interest to participate.

The exact scheme to train teachers/educators on how to use the GP will only be finalised after the preparatory discussions have taken place.

C.2. Training of Teachers

Forty-five (45) two-day “Training of Teachers” workshops will be organized in different towns of Croatia. It will be recommended that teachers on natural sciences from each school are participating on the training. The total number of teachers to be trained is 1,300 (in average 25-30 participants per workshop). However, the project team anticipates the possibility that a higher number of schools will express interest to be involved. In such cases, the PIT will look for additional local resources in order to organise more seminars.

The programme of each training will be presented by the educators trained through the "Training of Trainers" programme, that will also remain after the project finishes to teach and train the future generation of teachers. Each workshop will include:

- Introductory session on EE and ESD in the national curricula.
- Group work (participants will be divided into four groups and will consecutively be trained in how to use the four main components of the GP), as well as improvement of technical skills in using computers, if needed.
- Question and answer session and practical exercises.
- Session devoted to the follow-up/dissemination process.
- Closing session.

The teachers' training and GP dissemination to schools will be done with the active involvement of relevant national and regional institutions dealing with EE and ESD.

C.3. Evaluation and Reporting

A final meeting with the participation of all PIT and NGPTF members will be organised in Zagreb. The participants will share the results from the teachers' training and GP dissemination as well as the reactions on the programme, and recommendations for further GP improvement.

The final narrative report will be discussed and enriched with suggestions from the beneficiary country.

III.3.10. Indicative timeline

Year/Quarter Activity	Year 1				Year 2			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<i>Phase A – GP development and promotion</i>								
1. Establishment of PIT	X							
2. National scoping meeting	X							
3. Establishment of NGPTF	X							
4. Action plan adjustment		X						
5. Selection and translation of GP materials								
6. Adaptation and upgrading								
7. First GP draft preparation								
8. Independent review								
9. Work on the 2nd draft								
10. GP production								
<i>Phase B - GP Launch and Training of Trainers</i>								
National launch event						X		
Drafting the teachers training programme						X		
Train-the-trainers workshops						X		
<i>Phase C - Training of Teachers and Dissemination</i>								
Detailed training program development						X		
Training of teachers								
Evaluation and reporting								X

III.3.11. Estimate of implementation costs

Having in mind the detailed plan of implementation described above, costs of implementing the GP in Croatia can be estimated at **377,210 EUR** in total, which is the optimistic scenario based on the assumption that there are no financial restrictions. Detailed costs estimate includes costs of working time of the national team of experts and advisors, with coordination and expert input by the REC, as well as costs expected to occur as "technical expenses" (material/printing costs for the educational set of materials), and for capacity building itself (teacher training events). The total budget can also change in case the quantities of produced Green Packs and/or teacher trainings will differ from this proposal.

A detailed budget is attached as **Annex IV** in this report (and also separately as Excel document). Below is an explanatory overview of costs, divided by main activity groups (amounts in EUR).

GP for the needs of primary schools (content development) = 66,975

The work includes:

- adaptation, upgrading and authoring of handbook lesson plans and dilemmas
- design, new illustrations related to the printed materials
- development of DVD collection for the needs of Croatia
- development of a CD-ROM in CRO and ENG languages
- design and illustrations related to CD-ROM
- formal approval of the GP

GP Senior for secondary schools (content development) = 34,460

The work includes:

- modification and upgrading of the CD-ROM
- upgrading of the DVD film collection
- development of a Guidebook for teachers (new component)
- design and illustrations related to this new product
- formal approval of the GP Senior

Organization of: = 19,625

- 3-4 meetings of the NGPTF
- GP Launch event

Two training of trainers' workshops: = 10,250

- One related to the GP
- One related to the GP Senior

45 training of teachers workshops: = 83,700

The work foresees:

- Organization of altogether 45 workshops (ca 25 participants each)
- Involvement of REC experts as trainers
- Involvement of Croatian local experts as trainers
- REC organization of workshops (Project Assistant)

Management: = 89,200

- 32 days Project Director during the development and training of trainers phase
- 16 days Project Director during the teachers' training phase
- 144 days for project manager (6 days/month)
- 6 days for supervision

GP production/printing = 73,000

Including:

- 43,750 for production of 1,750 GPs for primary schools (2 packs per school)
- 29,250 for production of 1,950 GPs for secondary schools (5 packs per school)

ANNEX IV. Detailed Cost Estimate for Implementation of the Croatian Green Pack

All amounts in EUR.		WORKDAYS					Direct costs	TOTAL per activity
		Unit cost	# of units	REC	Croatian experts	International experts		
1	GP (primary schools)							66.975
1.1.	Handbook and Dilemma games							
1.1.1.	translation and language editing (Cro)		lump sum		2.500			
1.1.2.	authoring new material (Cro)		lump sum		2.500			
1.1.3.	finalising new lesson plans (REC)	375	6	2.250				
1.1.4.	final proofreading (Cro)		lump sum		1.000			
1.1.5.	design (REC)	320	20	6.400				
1.2.	DVD film collection		lump sum		6.000			
1.3.	CD-ROM							
1.3.1.	translation and language editing (Cro)		lump sum		5.000			
1.3.2.	authoring new texts (Cro)		lump sum		4.000			
1.3.3.	editing, structuring	375	15	5.625				
1.3.4.	editing, proofreading		lump sum		4.000			
1.3.4.	translation to English (Cro. experts)		lump sum		3.000			
1.3.5.	English text editing (REC)	320	10	3.200				
1.3.6.	CD-ROM programming		lump sum			10.000		
1.3.7.	testing (REC)	375	20	7.500				
1.4.	Artist work (illustrations etc.)		lump sum			2.000		
1.5.	GP approval		lump sum		2.000			
2	GP Senior (secondary schools)							34.460
2.1.	CD-ROM upgrading							
2.1.1.	authoring new material (Cro)		lump sum		2.000			
2.1.2.	authoring new material (REC)	375	10	3.750				
2.1.3.	language editing and proofreading (Cro)		lump sum		1.500			
2.1.4.	CD-ROM programming		lump sum			2.000		
2.1.5.	Translation to English (Cro. experts)		lump sum		1.000			
2.1.6.	English text editing (REC)	320	3	960				
2.2.	DVD film collection		lump sum		4.000			
2.3.	Teachers' Guidebook		lump sum					
2.3.1.	authoring new material (REC)	375	10	3.750				
2.3.2.	authoring new material (Cro)		lump sum		3.000			
2.3.3.	editing, proofreading (Cro)		lump sum		4.000			
2.3.4.	design (REC)	375	12	4.500				
2.4.	Artist work (illustrations etc.)		lump sum			2.000		
2.5.	GP approval		lump sum		2.000			
3	Launch event / NGPTF meetings							19.625
3.1.	REC experts - workdays	375	15	5.625				
3.2.	direct costs Cro. experts (travel, accomm.)						4.000	
3.3.	direct costs meetings						6.000	
3.4.	Cro. experts - workdays		lump sum		4.000			
4	Training of trainers - 2 workshops							10.250
4.1.	REC experts	375	10	3.750				
4.2.	Cro. experts (travel, accomm.)						4.000	
4.3.	direct costs meetings						2.500	

All amounts in EUR.		WORKDAYS					Direct costs	TOTAL per activity
		Unit cost	# of units	REC	Croatian experts	International experts		
5	Training of teachers (45 workshops)							83.700
5.1.	CRO trainers / fee per workshop	400	45		18.000			
5.2.	REC trainer	400	45	18.000				
5.3.	REC organization (Project Assistant)	360	45	16.200				
5.4.	Direct costs	700	45				31.500	
6	Project Management							89.200
6.1.	Project Director - GP development, ToT	375	32	12.000				
6.2.	Project Director - Teacher trainings	375	16	6.000				
6.3.	Project Manager (6 workdays/month)	300	144	43.200				
6.4.	Supervision	500	6	3.000				
6.5.	Travel (lumpsum)						15.000	
6.6.	Communication costs						5.000	
6.7.	Other costs						5.000	
7	GP Production	Cost per copy	# of copies					73.000
7.1.	GP primary schools (2 per school)	25	1.750				43.750	
7.2.	GP Senior (5 per school)	15	1.950				29.250	
Costs per main groups				145.710	69.500	16.000	146.000	377.210