DEVELOPING LOCAL AND REGIONAL ENVIRONMENTAL ACTION PLANS

CASE STUDIES OF
BULGARIA, THE CZECH REPUBLIC, HUNGARY,
POLAND AND THE SLOVAK REPUBLIC
en•dan•gered spe•cies (en dän′jard spē′shēz), 1. a species at risk of extinction in Central and Eastern Europe because of human activity, changes in climate, changes in predator-prey ratios. 2. Pelobades Fuscus and Hyla Arborea: commonly known as the common spade foot and the European treefrog, they represent protected and endangered amphibian species. 3. Salamandra and Toad Action Group: Salamandra maintains the Meteorite Reserve in Poland which is home to many rare species of amphibians. Toad Action Group works to preserve frog species in Hungary. Both NGOs operate with the financial support of the Regional Environmental Center.
Developing Local and Regional Environmental Action Plans

Case Studies of
Bulgaria, the Czech Republic, Hungary, Poland and the Slovak Republic

EDITED BY TOMAS HAK

Budapest
JULY 1996
About the REC

The Regional Environmental Center for Central and Eastern Europe (REC) is an independent, non-advocacy, non-profit international organization. The REC was established in 1990 by Hungary, the United States, and the Commission of the European Communities. Eleven countries have since joined these founding sponsors.

The REC’s mission is to promote cooperation among diverse environmental groups and interests in Central and Eastern Europe; to act as a catalyst for developing solutions to environmental problems in this region; and to promote the development of a civil society. Beneficiary countries are Albania, Bulgaria, Croatia, Czech Republic, Estonia, FYR Macedonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia. In these countries REC primarily supports environmental non-governmental organizations (NGOs), but also cooperates with local authorities, national governments, academic institutions, and the private sector.

In addition to its headquarters and local office in Budapest, the REC has local offices in Bucharest, Bratislava, Ljubljana, Riga, Skopje, Sofia, Tirana, Warsaw and Zagreb.

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ISBN: 963 8454 326

Published by:
The Regional Environmental Center for Central and Eastern Europe, Miklos ter 1, 1035 Budapest, Hungary

Printed in Hungary by Aqua

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<tr>
<td>AC</td>
<td>Advisory Committee</td>
</tr>
<tr>
<td>CEE</td>
<td>Central and Eastern Europe</td>
</tr>
<tr>
<td>CSOP</td>
<td>Czech Union of Nature Conservation</td>
</tr>
<tr>
<td>CUI</td>
<td>Canadian Urban Institute</td>
</tr>
<tr>
<td>DHI</td>
<td>District Hygiene Inspectorate</td>
</tr>
<tr>
<td>EAP</td>
<td>Environmental Action Program</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td>ESA</td>
<td>Environmentally Sensitive Areas</td>
</tr>
<tr>
<td>ETP</td>
<td>Environmental Training Project</td>
</tr>
<tr>
<td>ETP-S</td>
<td>Environmental Training Project-Slovakia</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>HERO</td>
<td>Hungarian Eco-Region Office</td>
</tr>
<tr>
<td>HIID</td>
<td>Harvard Institute for International Development</td>
</tr>
<tr>
<td>IEC</td>
<td>Independent Ecological Center</td>
</tr>
<tr>
<td>IEP</td>
<td>Institute for Environmental Policy</td>
</tr>
<tr>
<td>ISC</td>
<td>Institute for Sustainable Communities</td>
</tr>
<tr>
<td>ISD</td>
<td>Institute for Sustainable Development</td>
</tr>
<tr>
<td>LEAP</td>
<td>Local Environmental Action Plan</td>
</tr>
<tr>
<td>MoE</td>
<td>Ministry of Environment</td>
</tr>
<tr>
<td>NEAP</td>
<td>National Environmental Action Plan</td>
</tr>
<tr>
<td>NGO</td>
<td>Nongovernmental Organization</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>PC</td>
<td>Program Committee, Policy Committee</td>
</tr>
<tr>
<td>PCO</td>
<td>Project Coordination Office</td>
</tr>
<tr>
<td>QHRA</td>
<td>Quality Health Risk Assessment</td>
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<tr>
<td>REAP</td>
<td>Regional Environmental Action Plan</td>
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<td>REC</td>
<td>Regional Environmental Center for Central and Eastern Europe</td>
</tr>
<tr>
<td>REI</td>
<td>Regional Environmental Inspeation</td>
</tr>
<tr>
<td>ROWG</td>
<td>Regional Objective Workshop</td>
</tr>
<tr>
<td>RSD</td>
<td>Rackeve-Soroksari Danube</td>
</tr>
<tr>
<td>SC</td>
<td>Strategy Committee, Steering Committee</td>
</tr>
<tr>
<td>TC</td>
<td>Technical Committee</td>
</tr>
<tr>
<td>TF</td>
<td>Task Force</td>
</tr>
<tr>
<td>UN</td>
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</tr>
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<td>UNESCO</td>
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<td>United States Agency for International Development</td>
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<td>USEPA</td>
<td>United States Environmental Protection Agency</td>
</tr>
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<td>VATI</td>
<td>City Planning Institute</td>
</tr>
<tr>
<td>WRI</td>
<td>World Resources Institute</td>
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2 Radom
3 Kolin
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7 RSD Ecoregion
8 Troyan
9 Stara Zagora
## Basic Country and Local Information

<table>
<thead>
<tr>
<th></th>
<th>Area (km²)</th>
<th>Part of the Country area (%)</th>
<th>Number of Settlements &lt; 1,000 inhabitants</th>
<th>Number of Settlements &gt; 1,000 inhabitants</th>
<th>Population (000)</th>
<th>Part of the Country Population (%)</th>
<th>Population density (persons/km²)</th>
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<td>8,472</td>
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<td><strong>Poland</strong></td>
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<td>38,418</td>
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<td>2053</td>
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<tr>
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<td>230</td>
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<td>107</td>
<td>2053</td>
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<td>Elk</td>
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<td>5,263</td>
<td>5,263</td>
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<td>145</td>
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<tr>
<td>Upper Nitra</td>
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<td>52</td>
<td>140</td>
<td>5,263</td>
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<td>145</td>
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Source of national data: Local governments in CEE and the CIS, 1994 (Institute for Local Governments and Public Service, Hungary)
The report, "Developing Local and Regional Environmental Action Plans in Central and Eastern Europe: Case Studies of Bulgaria, the Czech Republic, Hungary, Poland and the Slovak Republic," aims at assessing the progress in adopting comprehensive environmental protection strategies at the local level. The countries included in this report are progressing towards market-based economic systems and modern systems of environmental management at different paces and by different means, but they meet common problems and obstacles as well.

The report provides detailed descriptions of five local and two regional environmental action plans, generally referred to hereafter as local environmental action plans (LEAPs), from five countries. The report analyzes all the cases in terms of the approach used in the Environmental Action Program for Central and Central Europe (EAP). It provides information on the possible application of that EAP methodology and on different approaches undertaken in different LEAP sites. Whereas a previous REC report entitled Status of National Environmental Action Programs in Central and Eastern Europe (May 1995) focused on the advancement at the national level, this report concentrates on local-level achievements.

Developing LEAPs in the region is still in its infancy; the report takes a snapshot of those older and more developed LEAPs. Some reported cases are still underway and may be finished in different ways. The report, however, does not provide an exhaustive list of local environmental initiatives. Conclusions focus on what worked and did not work in only certain cases.

The most visible result of developing LEAPs in several communities is the strengthened identity of the inhabitants with their towns or villages. It is useful to activate local initiative and knowledge and to make environmental protection a common task. The case studies also point out more general problems and needs, such as leadership, capacity, availability of funds and information. Incomplete administrative reform in many countries has resulted in a tendency towards re-centralization of decisions and resources. This latest seems to be a serious problem.

The report consists of case studies based on a format prepared by REC project staff in consultation with leading experts who have served as LEAP projects partners. Comparable formats were discussed and approved at meetings of all project partners and the coordinator of the project in REC. Easy-to-follow formats were used to allow comparisons to be made while going through the text. The following project partners were involved in preparing the case studies: Zoltan Csepiga, Marta Kaczynska, Ctirad Mike, Peter Nizak, Veleslava Tsakova. The Stara Zagora LEAP report was based on the reports and contributions of Katya Dyankova, Paul Markowitz, Rossitsa Panova and Elena Petkova.

The edited case studies were discussed during a workshop held from June 14-16, 1996, in Szentendre, Hungary. The main goal of the workshop was to share experience related to the process of developing and implementing local and regional environmental action plans in the region. Project partners and experts from different leading institutions working in this field reviewed the LEAP process to date, identified lessons learned and discussed ideas for promoting the development of other LEAPs in the region.

Tomas Hak was responsible for developing the framework and editing the report, for writing the overview chapter and for overall coordination of the project. Additional members of the REC Initiatives Team reviewed the texts, including Lee Davis, Istvan Hegyi, and Laszlo Karas. English language editing was completed by Helen Carr and Lee Davis, and desktop publishing and publication layout performed by Sylvia Magyar. The project which resulted in the publishing of this report was carried out as part of the Assistance to EAP Approaches Program of the REC Initiatives, under the management of Laszlo Karas.

I would like to thank all the contributors to the report for their dedication and commitment.

Stanislaw Sitnicki
Executive Director
## Key Characteristics of the LEAP Cases

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<th>Municipality size</th>
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<th>Stara Zagora</th>
<th>Kolín</th>
<th>Sátoralja-újhely</th>
<th>Moson-magyarovár</th>
<th>RSD Eco-Region</th>
<th>Elk</th>
<th>Radom</th>
<th>Upper Nitra Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>25,000</td>
<td>200,000</td>
<td>32,000</td>
<td>21,000</td>
<td>30,000</td>
<td>296,000</td>
<td>55,000</td>
<td>230,000</td>
<td>140,000</td>
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<tr>
<td>LEAP start-up (initiator)</td>
<td>foreign</td>
<td>Local NGO</td>
<td>National Environ., Foundation</td>
<td>foreign</td>
<td>foreign</td>
<td>foreign</td>
<td>foreign</td>
<td>foreign</td>
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<tr>
<td>Direct public engagement</td>
<td>Yes</td>
<td>Yes</td>
<td>little</td>
<td>Yes</td>
<td>Yes</td>
<td>Little</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Education/training</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Little</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Availability of environmental data</td>
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<td>low</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>low</td>
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<tr>
<td>Risk assessment method used</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Indicators of success (feedback)</td>
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<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Sustainable development principle</td>
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<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>-</td>
</tr>
<tr>
<td>LEAP preparation time (months)</td>
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<td>29</td>
<td>21</td>
<td>18</td>
<td>18</td>
<td>24</td>
<td>24</td>
<td>30</td>
<td>22</td>
</tr>
<tr>
<td>Implementation of action to address priority problems</td>
<td>first ranked problem</td>
<td>first ranked problem</td>
<td>LEAP develop. is under way</td>
<td>first ranked problem</td>
<td>second ranked problem</td>
<td>No</td>
<td>LEAP develop. is under way</td>
<td>LEAP develop. is under way</td>
<td>LEAP develop. is under way</td>
</tr>
<tr>
<td>Priorities for environmental investment</td>
<td>drinking water</td>
<td>air pollution</td>
<td>air pollution</td>
<td>air pollution</td>
<td>river pollution</td>
<td>water pollution</td>
<td>depletion of underground water</td>
<td>air pollution</td>
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</tr>
<tr>
<td>1.</td>
<td>drinking water</td>
<td>drinking water</td>
<td>air pollution</td>
<td>water pollution, solid waste</td>
<td>air pollution</td>
<td>river pollution</td>
<td>water pollution</td>
<td>air pollution</td>
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<tr>
<td>2.</td>
<td>air pollution</td>
<td>drinking water</td>
<td>drinking water</td>
<td>air pollution</td>
<td>water pollution</td>
<td>air pollution</td>
<td>air pollution</td>
<td>air pollution</td>
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<td>3.</td>
<td>forest damage</td>
<td>solid waste</td>
<td>household waste</td>
<td>galvanic sludge</td>
<td>red sludge</td>
<td>biodiversity</td>
<td>biodiversity</td>
<td>water pollution</td>
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</tbody>
</table>
I. Background

SITUATION RELATED TO ENVIRONMENTAL PROTECTION IN RESPECTIVE CEE COUNTRIES AT LOCAL LEVEL

Development in Transition

Despite a common past, CEE countries are not developing in the same ways and at the same pace. Political orientation and practices differ, causing minimum cooperation and mutual support. The main direction of the political changes has been to bring the execution of self-government as close to citizens as possible. In most countries, many changes have been made in environmental legislation, as well as legislation assigning a structure and responsibilities to governments, and in decentralizing responsibility.

In general, under recent laws, local governments have been given broad, new responsibilities to address problems posing risks to human health, the environment or economy. Municipalities as self-government authorities have been working out long-term development programs: municipalities are responsible for economic, social, and cultural development, and for the creation of a healthy environment.

Former socialist countries which have developed economically are now paying more attention to the integrated approach of economy and environment: at local level, it is obvious that the environment has not been given top priority in municipal agendas. People’s concerns have shifted from environmental issues to economic and social ones (unemployment, living standard, security) soon after the political changes.

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Key actors in environmental protection at local level

There are a number of institutions, as well as individuals, involved in environmental protection at local level. Although their status, responsibilities, and activities differ in each country, the most significant ones are:

- **Central governments** which determine space within which local and regional authorities can act. In some countries, the central governments have “detached” organs (district and regional offices, directorates, inspectorates) acting in districts and at a regional level. Ministries and governmental agencies are the top decisionmaking bodies for policy, legislation (proposing, supervising and enforcing), allocation of resources and information dissemination.

- **Local governments** with their decisionmaking bodies (general assembly, municipal council). They are the top bodies for policy-making and legislation within their jurisdiction. They are authorized to enact local ordinances and supervise and enforce their implementation. They are responsible for overall municipal development (economic, social, environmental, cultural).

- **Interest groups**, such as nongovernmental environmental organizations—associations, clubs, foundations, etc.—have a very broad range of activities and interests. There is also a variety in NGO size and impact on environmental decisionmaking at any level. Small NGOs, with a few members, focus primarily on nature conservation in their locality, whereas big organizations operate nation-wide, running various programs, campaigning, lobbying, or forming unions and associations. These groups or institutions have a great effect on the environment by their activities. They are associated around a common concern (associations of farmers, land or forests owners, etc.). Associations of municipalities created on a voluntary principle to assert their common rights and interests can play a crucial role in cooperation among municipalities at a bigger scale (regions, areas based on a watershed or airshed).

- **Local business and industry** engaged in creating the economic base of a community. People working in local companies also live and raise their children in the local community. They know that local business and industry are important to provide economic stability and jobs and want to live in good and healthy surroundings at the same time. They play an important role at local level. In environmental terms, there are basically two types of firms: Businesses performing environmental protection activities (companies running landfills, garbage collecting systems, waste water treatment plants, etc.), and businesses perceived as polluters (power plants, chemical plants, farms, mining companies, etc.).

- **Scientific community (including educational)**. Research and environmental surveys at the local level are a necessary source of reliable data needed for the inventory of local environmental problems and assessing their impact. Changes in competencies in state administration have resulted in the termination of the regular measurement of some environmental data by central institutions, but without creating appropriate conditions for a take over by local governments. Schools and their scholars can supply the necessary knowledge and expertise to aid NGOs to set up eco-centers, and help with educational activities.

- **People living in the area** who benefit from various municipal development programs and daily activities of a municipality. They are voters. They have the right to be informed about the state of the environment and about major development projects which are subject to environmental impact assessment procedures.

- **Financial institutions and environmental funds** established for the collection and disbursement of money strictly earmarked for environmental purposes. They provide reliable and substantial levels of financial resources for environmental investments which may otherwise not be available. Environmental funds at the local level have been recently established in Bulgaria and Poland. Banks and financial institutions operating at the local level could play an increasing role in funding municipal projects with the progression of market economies.

- **Local newspapers, TV and radio broadcasting**. Their role in publicity-making, advertising, education, and raising public awareness is unique.

Local administration

**System of local government**

The system of local government differs in respective countries. Municipality can be either a single unit (town, vil-
The basic rights and powers of the local government are usually executed by the Municipal Assembly and the Council. The Municipal Assembly approves programs for municipal development, budget and municipal regulations. A Municipal Council is the body of local self-governance - the executive organ. It may transfer some of its power to the Mayor.

The municipal office is headed by the Mayor. The Council is authorized to form departments of the municipal office for individual spheres of its activity. The departments of environmental protection (somewhere merged with agriculture or divided in smaller sections according to environmental media or activity) employ a different number of persons usually depending on the size of the municipality and on the decision made by the elected representatives (1-15 employees usually deal with environmental protection). One of the major problems of many local government offices is the shortage of adequate, administrative personnel. This fact, together with the lack of environmental management knowledge and skills, can be an important obstacle in the way of effective environmental protection at local level.

Municipalities control some institutions providing various services: kindergartens, nursery homes, orphanages, museums, elementary and secondary schools, etc. Utilities and physical services provided by municipalities are owned either by municipalities or by contracted private companies.

Municipalities have to take care of their own real budgets and are fully responsible for effective management. The municipalization or privatization of state-owned property by municipalities is one of the most important economic changes at the local level. The formerly state-owned council housing stock, water resources, forest, public utilities and commercial enterprises, public buildings, and land were transferred to local government by law. In general, most municipalities face a lack of money for their development (that is especially true in the case of comprehensive environmental remedy programs, rehabilitation of past damage, etc.).

Cooperation at a horizontal level

Decentralization as an overall measure to establish democratic administrative systems in CEE countries has brought some side effects as well. Regional governments have been abolished in some cases and all connections have been directed through central government. Such a lack of cooperation can be especially dangerous to environmental policy, as environmental action can be effectively undertaken only at a scale larger than the territory of the municipality (municipal waste management, treatment of sewage waters, etc.).

Municipalities cooperate with other appropriate governmental agencies, other municipalities, and private companies. Partnership between the public and private sectors is newly emerging. Municipalities have some tools (economic incentives, most of all) to attract entrepreneurs to plans for municipality development. These partnerships are established especially in the organization of services for citizens like water supply, waste water treatment, waste disposal, etc. Cooperation between local governments can help to overcome human inability to manage local environmental issues. Associations of municipalities as legally-based bodies for protection and asserting common interests have been established in all the countries. An important aspect of the associations’ work is the financial cooperation; in cases of common interest, they can finance matters jointly.

Territorial organs of ministries and other central agencies—regional and district offices—have an important place in coordinating national strategies.

THE CONCEPT OF THE ENVIRONMENTAL ACTION PROGRAM

There is a framework known as the Environmental Action Program for Central and Eastern Europe (EAP). The EAP is considered as a temporary, medium-term program, aimed at helping the CEE countries to catch up with western standards in environmental improvements. The strategy is based on a three-legged approach to policy reform, institutional strengthening and investments. Priority is given to action, resulting in immediate, positive effects on human health.

The EAP calls attention to a lack of resources available for environmental improvement and weak institutions in the CEE countries. It provides guidelines to identify the highest priority problems and to develop realistic, efficient and cost-effective solutions. It stresses the importance of consensus-building with a strong participatory approach while planning environmental and economic development.

EAP PRINCIPLES IN THE LEAP CONTEXT

Policy reforms

Effective environmental protection can be based only on sound economic and environmental policies. These policies include a mixture of both regulatory measures and economic instruments that are applied where appropriate.

Policies promoting competition and privatization are used by respective ministries in all CEE countries. A complete, economic restructuring is the most important consequence of this development. As far as environmental regulations are concerned, many CEE countries have worked out a system of environmental standards comparable to those applied in the EU or OECD. These standards require strong enforcement (monitoring, imposing charges, etc.) by institutions at all levels. However, institutional enforcement capacity at local level, most of all, must be strengthened significantly.

One of the EAP requirements is to strengthen local environmental planning. Despite the fact that planning was the most characteristic feature of previous economic systems in the CEE countries, local environmental planning is quite a new challenge. Community environmental planning brings several benefits:

- establishes priorities and allocates available resources in the most efficient way;
- helps to build community environmental awareness and to support community-based action;
- saves money by using an effective combination of tools, environmental programs and services and by dealing with threats before they become a big problem;
- considers the community as a whole with its resources, economy and public opinion.

Environmental planning is an open process that uses and combines different instruments and tools. The outcome—LEAP—becomes a part of the entire environmental management system.

Institutional capacity-building

The greatest contribution to improved environmental management is likely to come from strengthening local and regional institutions within countries. In particular, improving their capacity to identify priorities, develop policy,
ensure environmental compliance, and also to operate financial systems. Substantial local participation is essential, both to formulate advice that can be implemented and to improve local capacity to achieve better environmental performance from existing facilities. Neither governments nor donor institutions are equipped to judge how local inhabitants value their environment.

Besides the requirement of improving the capacities of environmental institutions (NGOs, research institutions, environmental agencies) and/or institutions that manage the environment (ministries, district offices, local governments), it is also necessary to increase communication and coordination between different levels of government as well as within local government. Municipalities should increase the level of cooperation-operation and coordination with the goal of enhancing the information and experience exchange between local authorities. Local governments can learn from citizens and from local community and industrial organizations and acquire the information needed to formulate the best strategies.

Investments

Investments can lead to desired results only if they follow sound policies. And, investments should be an integral part of comprehensive environmental programs.

The EAP recognized that the bulk of resources for environmental expenditures in CEE has to be found at the local level (regional and local environmental funds, enterprises, municipalities). Examples from Poland show that a substantial part of environmental expenditure comes from regional and local environmental funds and municipalities (60 percent) and enterprises (30 percent). This shows that local resources may play a decisive role in funding environmental investments. Local governments should work out a domestic system of environmental financing.

A few categories are recommended priorities: operation, maintenance, and repair costs of public environmental services; win-win investments (which can be justified on economic and financial grounds alone, but they bring substantial environmental benefits with them as well; they make sense when financial resources are limited); low cost measures to address long-term priorities where prompt investment can save money in the future.

Financial analyses—based on a comparison of cost and benefit—of different options should play an important part when setting environmental priorities among different strategic options. To achieve the best results with the available resources, it is necessary to know how much environmental improvement can be achieved at different costs.

From EAP to LEAP

The EAP has called for a development of environmental programs adjusted to the needs and conditions of each particular CEE country. This need has been widely acknowledged and the process of development of national environmental action programs (NEAPs) has been underway and supported by foreign donors in some countries. Despite the fact that the EAP has also addressed the role of local governments, no similar explicit requirement on local environmental programs has been articulated.

CEE countries have, however, developed their NEAPs more or less based on the EAP recommendations, although there are many obstacles resulting in a lack of communication with the public, inconsistencies in setting priorities and hot spots, a lack of a leadership in environmental administration initiating and conducting concrete programs, difficulties with translating strategy papers into action. This has led some municipalities to prepare environmental plans based on their own priorities.

LEAPs can use the methodology of the EAP. Local level can even easily adopt some recommendations of the EAP because of the compliance of a goals timetable, easier contact with the public, knowledge of local conditions. There are certain limitations in developing individual policies by local governments caused by a division of responsibility between administration bodies at different levels (national governments are supposed to enact laws, regulations and set up a frame for economic instruments as well). In some countries, recently returned tendencies to centralize power can become a serious constraint to democratic, local development.

Real Meaning of the LEAP

The name itself—Local Environmental Action Plan or Program—shows that more emphasis should be put on action and concrete programs. The LEAP should not be a concept or policy document for the local level. The aim of the local planning process is to develop a comprehensive program with concrete action to improve the environment at a lower cost with available resources. Various actions and programs included in the LEAP are to be a combination of different projects, instruments, and activities, both newly designed and those already existing. These programs are to be implemented by different parts and groups within the whole community, not by the local government itself.

LEAPs are to be carried out by people living in a given area. Only local people can design the LEAP in a way which really meets local requirements. LEAP offers many forms of collaboration between local administration and the public: public hearings, creation of environmental, project committees, etc. Training designed for citizens working on project committees, as well as the continuous education of the public about evaluation of the condition of the environment, understanding of environmental reporting, and showing links between the environment and economy, are prerequisites if the LEAPs are to continue. Local authorities, environmental NGOs, the scientific community and all concerned have a primary task at the outset: involve the public so that the LEAP can be truly perceived as owned by the majority of citizens.

The LEAP goals are to be realistic and achievable in a certain time limit and with a certain budget. In general, LEAPs focus on short-term priorities. This does not mean that LEAPs compromise a vision of the community with long-term goals. This vision can gradually become reality by implementing achievable, realistic measures. As far as money is concerned, the LEAP is not intended to attract foreign financial assistance to the community. Financial analysis during the priority-setting process is used to chose options bringing environmental improvement at the lowest cost, financed primarily from national and local sources.

LEAP offers a truly democratic way of handling local affairs. From creating a vision for the community, through selecting priorities and designing targets, to implementation of selected programs, the public is given a chance to shape its own future.

Environmental goals should be balanced with economic performance. The impact of proposed solutions on economic and social issues should be acceptable to the community (phasing out a local business can cause unemployment, stop state subsidies, etc.). The interrelationship of the envi-
environment and the economy should be recognized. This approach—when progress in environmental protection is achieved along with improvements in economic performance—will ultimately lead to sustainable development.

II. Environmental Protection Experience

Recently emerging LEAPs in the region have reached different stages and therefore provide a limited amount of information on some aspects (capacity of stakeholders to handle environmental planning effectively, functioning of local government related to LEAP development and implementation, financing of LEAPs and most of all, implementation of LEAPs). Experience of collected LEAPs has not been analyzed according to the EAP three-legged approach: environmental policy, administration and investment. We focused on the most important LEAPs’ elements and tried to generalize them to prepare a solid ground for conclusions.

LEAP COMMENCEMENT

Emerging LEAPs in CEE

Comprehensive development programs for environmental protection at the local level were launched in some CEE countries in the early nineties, mainly with the assistance of foreign experts and organizations. Not all of them have reached the implementation phase or even the phase of results evaluation and adjustment. The cases which have reached the advanced stage of development were selected for this study. They show a variety of approaches, achievements and problems. Nine local or regional environmental action plans from five CEE countries were finally identified as LEAPs and described in the report without any attempt to present an exhaustive list.

“Bottom up” or “top down”

The political and economic development of the CEE countries are reflected in the progress of LEAPs: some LEAPs have already reached their implementation phase, while local governments have not undertaken this task in other countries. The collected LEAPs used both the “bottom up” and “top down” approaches. In Bulgaria, Poland, and Slovakia, the LEAP sites were formally chosen as hot spots or pilot projects within the national environmental strategies. In other countries, the LEAPs were initiated at the local level by NGOs. Although local authorities committed themselves to be involved in all cases, but none were initiated by them.

In practical terms, there has been no significant difference between the two types of LEAPs—nationally- or locally-initiated. No functional relationship between environmental strategies at a national level, and action plans at the local level, have been established beyond some “moral support” from the ministries in the early stages of the projects.

Advances in legislation

Environmental Acts

The CEE countries have already enacted comprehensive environmental legal acts. They have included modern principles already established by western countries: polluter pays, sustainable development, access to environmental information, etc. These acts are being updated and modernized as the CEE countries harmonize their legislation with the European Union. Despite the existence of modern legislation in most CEE countries, its enforcement is usually very weak.

Local governments are authorized to issue local ordinances as well as to set down the types of municipal levies, and their rates. Local authorities could impose even stricter environmental limits then national ones, but no such cases have been reported. In Troyan, the City Council approved a new environmental ordinance regulating water usage and shifted responsibilities to the largest industries to develop their own water supply.

Act on Municipalities

All the CEE countries have passed acts on municipalities or local governments. A local community is entitled to freely administer local affairs. Every municipality has its own elected representative body. The rights and duties of local authorities are defined by laws.

Responsibilities of local governments usually include: managing municipal assets, passing and managing the municipal budget, adopting a development program for the municipal territory, setting down the types of municipal levies (fees and taxes) and issuing environmental protection ordinances.

Under the Environmental Protection Act, municipalities are responsible for controlling the disposal of waste on their territory, maintaining households waste water plants, managing nature preservation, etc. Municipal governments are also responsible for developing their own environmental protection programs.

Despite the fact that none of the above mentioned acts has been needed to develop LEAPs, they have laid down the necessary framework since citizens have the right to find solutions to many problems. None of the above mentioned acts requires that municipalities develop LEAPs, except in Hungary. The Hungarian Parliament has recently passed an act assigning municipalities a duty to prepare the municipal environmental protection programs. Local governments are required to ensure the conditions for their implementation and revise the programs at least twice a year.

LEAP DEVELOPMENT

Analytical Tools for Priority-Setting

Priority-setting at the local level used two different tools:

- risk assessment, and
- comparative risk analysis

Risk assessment

Risk assessment is a tool for determining the harm that some substances can pose to human health or the environment. It requires data: toxicity of pollutants, exposure to pollutants, cumulative effects, etc. Unfortunately, data have been both seriously deficient (this problem has been met in all the analyzed cases), and a great uncertainty has been often associated with the data that existed (methodological inconsistencies, mistakes entailed from extrapolations and interpolations, etc.).

Risk assessments were conducted primarily by experts from different medicine and hygiene institutes using existing data (health risk assessment) and reviewed by project committees. Some additional analyzes were conducted sporadically. In the case of a serious lack of data, experts’ opinions and public concerns were used to identify environmental problems.

Comparative risk analysis

This tool for ranking environmental problems by their seriousness—relative risk—for the purpose of assigning program priorities, was used in the LEAPs developed with the guidance of ISC (in Bulgaria, Hungary, Poland). Com-
parative risk analyses were completed by merging experts’ and public rankings at open sessions. Other factors such as economic feasibility, implementation time, political acceptability, etc., were considered as well.

It was proven in Hungarian LEAPs that people’s opinions fit closely to the results of ranking processes based on conducted analyses; a “community wisdom” is likely to be a quite suitable indicator.

Despite the fact that economic considerations were taken in the final stage of the ranking process, it was the weakest part of the priority-setting procedure in all analyzed cases. When selecting the best options to solve environmental problems, economic analyses of communal finances is necessary. There were several priority environmental media-oriented categories in the LEAPs:

- air pollution from industrial sources and traffic;
- pollution of drinking water;
- pollution of surface waters;
- industrial and household waste;
- soil contamination.

A strategy to direct environmental investments should be based on both local priorities and on the priorities of national environmental policy. State budgets, the main source of municipal income, as well as national environmental funds, finance many local and regional projects perceived as national priorities.

Public Participation

A strong participatory approach—involving local people in environmental decisionmaking—is essential for the long-term continuity of environmental improvements. The public should most of all create their vision of the community, give opinion on priorities, and agree on selected action. Local governments are closest to the residents, but after so many years of non-participatory regimes, people have to be encouraged to become involved.

In this term, the role of environmental NGOs is to motivate and persuade others. The number of environmental NGOs has increased significantly in all the CEE countries. They are active mainly at the local level: it seems to be the most practical level for public participation. It is much easier to involve citizen groups, and even individual residents, in the process of improving their environment at a local level than at a national level.

Participation of both the lay public and independent experts is a prerequisite for the success of the LEAP. Project committees (citizens committee, advisory committee, etc.) were established in each case project by local people on a voluntary basis. Committee members represent the public, for example, in important events such as the launching of the LEAP, priority setting, etc. Many people were partly involved in projects through questionnaires and public surveys on environmental problems. Despite partial success with the public engagement in the LEAP process, a great majority of the public is still not concerned with local environmental issues.

An adequate legal base for participation of both civic groups and individual citizens needs still to be defined in most countries. Civic groups, as well as the general public, usually participate in Environmental Impact Assessment (EIA) procedures giving the opportunity to express an opinion on investment projects. Environmental NGOs comment on the drafts of environmental policy documents. Business groups are asked to comment on the drafts of legislation. The right of the public to participate in formulating and implementing environmental programs and projects at any level has not been formally enacted anywhere.

Environmental Information

Existence of environmental information.

Laws define the responsibilities of different state organs in monitoring the condition of the environment. But procedures, frequency, and types of environmental information are not explicitly stated. Also, methodology for measuring environmental data change over time within countries (it can result in different figures for the same venture). This complicates or makes impossible the calculation of trends, which is very important, especially in the transition period, with many structural changes in economies and policies. Methods of collecting environmental data are not unified even in neighboring countries, complicating any transboundary cooperation (developing regional environmental action plans within two or more neighboring countries).

For local governments, it was almost impossible to order expensive information on the condition of particular components of the environment. In the past, if the problem was of national importance, national agencies or the MoE used to carry out analyses. With changing competencies, local governments have been assigned the task of monitoring the environment within a municipal territory without adequate financial resources or technical equipment allocation.

Access to environmental information

The right to free access to environmental information is embodied in constitutions or in some detailed regulations. The law enables participation of people in administrative cases as a party or on behalf of the party. Usually, no other specification of a possible information process is given, i.e., it is not clear to citizens mainly who, by when, and to which extent should information be provided. Some countries (Slovakia) have drawn up the principles of a complex new act governing free access to environmental information, which specifies in detail the conditions for applying constitutional rights. In general, it is true that access to environmental information has been included in legal systems, but is very vaguely defined. It is not even clearly stated what is meant by “environmental information.”

Local environmental action plans vary in many aspects, while being developed in different countries, at different times, by different stakeholders, and with different goals.

Complexity

Environmental planning is a process encompassing many steps that can guide the whole process, ensuring that no important component of the plan will be omitted. The ideal structure of the LEAP must be adapted to local conditions in real life: even within one country or a region, communities face different problems, possess different resources and acknowledge different values. Most LEAPs encompass these basic steps:
OVERVIEW

- identification of environmental problems and their cause;
- problem prioritizing;
- identification and selecting strategies for action;
- implementation.

All the LEAPs have missed some important elements: setting and adopting concrete aims or targets. These aims must be realistic, measurable, and achievable within a reasonable time limit. If they are worked out in a broad consensus with citizens and approved by local authorities, they should represent clear, measurable and comprehensible commitment by local government to really take action. These targets would serve as reference points when the progress of the LEAP implementation is monitored.

Environmental plans call for action. The LEAP should come up with realistic action that is feasible within a given time and with available resources. Clearly formulated actions based on the results of economic analyses and broad consensus can bridge the gap between LEAP development and implementation.

Geographical scope

Two types of environmental plans have been recognized among collected cases: local plans prepared for one community and plans prepared for certain areas including a few towns or villages. Boundaries were determined by these criteria:
- political (administrative) boundaries;
- resources to be preserved or protected (e.g. forests, rivers).

Using larger scales (county, district, region) can overcome the negative consequences of decentralization. Without the cooperation of small municipalities, scarce resources can be used in a less efficient way.

A regional LEAP, based on the watershed principle (RSD Ecoregion, Hungary), created an association of 23 communities which will proceed with the plan implementation as an independent, umbrella body. On the other hand, not all communities were involved in the process because of an absence of common interest.

At the local level, it seems to be easier to involve stakeholders, create partnerships, assign responsibility. On the other hand, scattered municipalities do not have the resources to undertake bigger environmental projects.

Initiator

In all LEAPs (except Kolin LEAP in the Czech Republic) foreign aid has played a crucial role. Most LEAPs were also initiated (except Stara Zagora and Kolin) outside the community. Foreign assistance has provided grants for the LEAPs’ start-up and for smaller projects within the LEAP, methodological and technical assistance. Foreign experts participated in most important project events (project commencement, setting priorities, training). It is impossible to analyze or predict the impact of the local initiative since both Stara Zagora and Kolin LEAPs are still under way. But there is a reason to assume that local initiative follows local leadership and may lead to a continuity and implementation of the project. We can see that because of a lack of local leadership, in most of the LEAP cases the process has been slowed down or stopped at the most difficult phase of the plan implementation.

Foreign aid can play a unique role in transferring know-how (methodologies, techniques), experience and some seed money for project commencement. Particular technical expertise (risk assessment methods, economic analyses, comparative risk analysis) and techniques for involvement and dealing with the public are useful.

To make foreign assistance mutually useful, both the donors and recipients should agree on their expectations. Foreign aid should follow qualitative criterion instead of quantitative criterion. Instead of commencing many LEAPs across the region, it should focus on a few pilot projects reaching tangible, concrete results. These LEAPs would be the best vehicle for replication by others. Recipients should not rely on donors developing and implementing projects. The lead in the whole LEAP process should be with local people, despite the fact that scope of activities of different stakeholders vary during the process.

III. Conclusions

ACHIEVEMENTS

Environmental awareness-raising

Public meetings and discussions on environmental protection issues contributed to environmental awareness-raising. This could materialize in more environmentally responsible behavior by citizens. Environmental protection at the local level involves several small and dispersed activities. Pollution prevention is the most obvious, cost effective and feasible at the level of small offices, businesses and households. There is also the potential to reduce a stream of waste generated at source by the community. This option could be fully inspected due to development of the LEAP at the level of the community. LEAP’s role in raising the environmental awareness of the local community was equally important as its role to select and coordinate environmental investment projects.

Education and training

Environmental planning requires specific technical skills, expertise, communications techniques, economic analyzes. Most have not been used in respective countries. Full understanding of the entire project methodology by project participants is of the highest importance. Comprehensive training of the core group of project participants was instrumental for project development all the LEAPs. Involving trained local experts is the most effective way of project replication and continuity of the whole process. Successful LEAPs will strengthen the capacity of all stakeholders.

Local identity and capacity development

The LEAP process offered the opportunity to work together on a voluntary basis for a common environmental benefit. This experience was essential to re-establish commitment and responsibility, and a shared ownership of the planned environmental protection activities. Public engagement in assessing environmental problems and selecting solutions helped in creating a local identity. Citizens’ identification with their region, or town is not strong in the CEE countries. Due to historical and political reasons, the development of a strong and well organized local community has not taken place. People should share and agree on their visions and expectations and work for common goals in order to identify themselves with the town or region. This process should be continued. Creating LEAPs significantly contributed to the creation of democratic societies by introducing and using participatory methods for consensus-building, negotiation, conflict resolution, joint projects, information sharing, etc. The capacity for participation was built throughout the process. It is difficult to measure, but the capacities of all stakeholders in the process were enhanced.
Resistance towards centralization

It is a tradition of the CEE countries to centralize authority in capitals and to curtail independence and self-governance of municipalities. These tendencies are still observed, despite the new laws and visible efforts to strengthen local authorities. The process of decentralization of rights and responsibilities depends on the active attitudes of citizens. The LEAP process has brought about many arguments for establishing a mechanism activating local communities.

Problems

Political and social support

Due to economic hardship in many countries, which is usually worse in smaller towns and villages, an integrated approach to environmental protection is still absent. If a community faces economic decline, rising unemployment, decreasing real wages, etc. it is difficult to come up with ideas to integrate the environment with the economy. Economic stability or prosperity is required first. Also, many countries have tended to focus on short-term profit policies relying on the power of the market economy system. In this light, municipal authorities can hardly see the benefits of comprehensive environmental planning.

Public engagement

Despite a steep increase in the numbers of environmentally-oriented interest groups in the region, public awareness on pressing environmental issues is low. The local level seems to be the best place for involvement, especially in mid-sized cities, which report success. But this involvement is usually limited to volunteers who work in project committees. Efforts to involve the public—not only for work in project committees—and encourage the LEAP to be adopted by the majority of citizens have thus far failed.

Environmental information

Environmental information created a basis for deciding on environmental priorities. Despite improved systems of data collection and national reporting in most CEE countries, at the municipal level there is an absence of data related to the condition the environment. Environmental inspectorates, hygiene institutes and environmental departments all possess equipment and trained personnel. The rights and responsibilities allowing a proper flow of information do not reflect new political-economic conditions. Enterprises and industry became a valuable source of information on pollution. In order to improve their image, they are often willing to provide the results of environmental audits to municipalities.

Unclear responsibilities

Successful LEAPs require cooperation between municipalities, local authorities and business, NGOs, public, different agencies and institutions. But effective cooperation can be practiced only with clearly assigned mandates, roles, and responsibilities.

This obstacle was encountered mainly in environmental data collecting. It was usually difficult to identify who is responsible and for what. Another serious problem relates to the representatives of people working in different committees. Their purely defined mandates result in a lack of responsibility and interest. The Upper Nitra project's goals were changed from developing a real regional action plan to designing an institutional framework for the regional cooperation as a start-up of any further cooperation process at a regional level.

Indicators of the LEAP progress

Evaluation should be an integral part of all project activities. Evaluations are needed to determine how the designed goals are being met. They also provide a basis for making mid-course revisions in the strategies and timeframe. So, monitoring and reviews should be included in all stages of the plan implementation.

There is a wide array of environmental indicators constituting a basis for comprehensive decisionmaking. Ideally, LEAPs should specify indicators for monitoring the status of the environment based on local circumstances. Indicators tell us whether the action has been carried out as planned, and if the action has had the expected impact. These indicators could be selected or developed when concrete measurable targets have been approved by project participants.

In already designed LEAPs, such indicators are missing. The LEAPs still underway are open to include indicators while an implementation plan is designed.

Lack of financial resources

Inadequate funding of environmental protection is a common deficiency in most CEE countries. Ineffective allocation of scarce resources is often caused by putting money in projects of relatively low importance.

Examples show that some municipalities allot a significant part of their annual budgets to environmental measures (app. 15 percent in Kolin, Czech Republic). Usually it is much less, and available money cannot cover all the inherited problems from the past (dumps, obsolete systems of households heating, lack of sewers and waste water treatment plants, etc.).

In order to wisely invest scarce resources, it is necessary to carefully prioritize environmental problems and possible solutions, and choose highly cost effective solutions with a high benefit-to-cost ratio. The coordination in selecting projects to fund from national and local sources is necessary to concentrate resources and avoid possible overlaps. It is also necessary to reconsider usual ways of financing environmental projects and develop effective systems of domestic funding that combine available sources.

Needs

Make a LEAP affordable

There are clear reasons why LEAPs are so rare in the CEE region. A gap in leadership and in a proven capacity to develop environmental policy plans at the local level makes it necessary to rely on foreign input. The LEAP development was also not facilitated by the environmental authority at the central level, which could provide missing skills and knowledge. Environmental problems seem to be less addressed by local authorities due to the pressure of other problems, including a shortage of funds in local budgets. Local authorities often copy the business methods of central bodies. This makes innovative and participatory procedures of planning and decisionmaking difficult. There is the need to reverse this trend and to make LEAPs affordable to the local communities.

Strengthen the implementation

It seems that passing from a plan to real action is the most problematic step for all the LEAPs. The worst situation is if the LEAP raises expectations which cannot be met.

To overcome the wide gap between planning and implementation, LEAP should be designed to include a complete implementation plan. In that case, the whole LEAP—including the implementation plan with a calculated
budget and other resources needed—will include the necessary political support at the outset. Commitment and support of the Municipal Council to the LEAP implementation is a crucial point in the process.

**Integrate LEAP and NEAP**

No real connection between collected LEAPs and environmental strategies at national level exist, despite some vague declarations.

The LEAP provides a methodology applicable both at national and local levels. But the methodology for preparing environmental investments is to be adapted to country-specific conditions. Local LEAPs, especially, must be tailored to the colorful conditions of big cities and smaller towns, more developed countries and countries which are progressing at a slower pace. The LEAPs have been developed with minimal links to national environmental policies.

National environmental strategy should provide a framework for LEAPs and create the necessary information channels on national priorities for environmental investments, regulate the speed of planned changes, long and medium-term goals, design pilot projects, direct foreign aid, and assist in replicating LEAPs in other communities or regions. National level institutions, such as the Ministry of Environment and Ministry of Health, can play an important role in providing information and technical assistance. On the other hand, LEAPs should provide policymakers at the national level with feedback about how realistic national plans are, what the pace of changes is, and what are the real needs at the local level. LEAPs can strengthen the capacities for environmental planning of national level bodies by providing this feedback information. In an ideal case, both national and local strategies will mutually benefit.

**Consider sustainable way of living**

Do LEAPs necessarily lead respective municipalities to sustainable development? Should this be their ultimate goal? How to measure this?

Most countries endorsed obligations to future generations at the UN Conference on Environment and Development in Rio in 1992. One chapter of Agenda 21—the main outcome of the Conference—was devoted to local authorities' initiatives. It was clearly recognized that many of the problems addressed by Agenda 21 can, and must be, solved at the local level.

LEAPs contribute to overall local development and an improvement in environmental health. LEAPs provide a unique chance to work out and implement the idea of sustainable development at a smaller scale than the country level. “Sustainable LEAPs” will not only improve the quality of the environment, but reduce environmental impacts at the lowest cost. Management practices will respect the limited potential of local ecosystems and natural resources, while developing in a sustainable way.

**Proceed with decentralization**

Administrative reform in the CEE countries needs to be finalized on a principle of self-governance and self-financing. The implementation of LEAP investment projects should become the duty of the local government. A good quality and professionally prepared LEAP may become a highly prized product only if responsibilities and resources are legally made available at local level. A demand-driven LEAP may become a reality if countries proceed with the decentralization of authority and create the legal and financial groundwork for community-based environmental initiatives.
Introduction

BACKGROUND

All local-level environmental protection activities in Bulgaria are carried out on the basis of set environmental regulations. The 1991 law related to local self-government and local administration gave many rights to the municipalities, as well as assigning many responsibilities, including a wide range of environmental management activities. The Environmental Protection Law of 1991 states the general rules for development of environmental policy at different levels. The Bulgarian Environmental Strategy of 1994 formulates the overall environmental policy of the country.

All these documents underline the importance of decentralization and public participation in environmental management, as well as the importance of understanding the need to develop local-level environmental programs. However, there is not enough experience in this field. None of the communities have a comprehensive environmental program coordinated with economic issues, nor take into account the role of the public.

The Troyan Environmental Action Project was a 21-month demonstration project in the city of Troyan, which is a well-known place in the country, with a population of 50 thousand inhabitants and it was a known place in the community, which is a necessity in such a demonstration project.

The Troyan Environmental Action Project was a 21-month demonstration project which enabled citizen committees to identify, analyze and rank environmental problems facing their community. The ISC, supported by a grant from the United States Environmental Protection Agency (USEPA), in coordination with the United States Agency for International Development (USAID), initiated this pilot project at the beginning of 1992. Project members identified and proposed strategies to resolve priority problems, taking into account the community’s limited financial resources.

Approximately half a year later, the Community-Based Environmental Action Project started in the city of Stara Zagora. It was perceived to serve as a model project for large Bulgarian municipalities by bringing together data-collecting and monitoring institutions, involving the public in the decision-making process, setting environmental priorities and making environmental protection investments in a market economy. The project was initiated by local environmental NGO Ecoglasnost-Stara Zagora. An agreement related to the project development was signed between Ecoglasnost, the Municipality, and the ISC. In 1994, the second phase of the project started entitled the Environmental Policy Development in Stara Zagora Municipality; it has converted research work into real action.

Environmental action projects for both cities were conceived as community-oriented projects, resulting in development and implementation of Local Environmental Action Plans (LEAPs) designed to deal with the most serious environmental threats posed to municipalities.

LEGAL FRAMEWORK

The launch of a LEAP is an initiative that should be undertaken by local government, citizens, or NGOs. There is no need for legal documents to initiate the process. It is also incorrect to expect that a LEAP will be restricted by legislation. The possibility that a LEAP is required by legislation is not excluded, but this is not the case in Bulgaria. However, elaboration of a plan and its implementation depends strongly on what legislation provides as rights and responsibilities.

The development process requires access to information on environmental problems. This right of citizens is included in the Environmental Protection Act which states that all people, state and municipal authorities, have the right to access available information on the state of the environment. However, this does not solve the information-collection problem, as legislation fails to provide information request procedures, appeal procedures in cases of refusal, and listings of information which must be available at respective institutions.

The implementation of a plan also depends on the competency of the local government in managing specific areas concerning environmental protection. The Law on Local Self-Governance and Local Administration stipulates that local self-governance of a municipality involves the rights of citizens or institutions, within their delegated competence, in decisions regarding the management of areas connected to municipal utilities, municipal finances, municipal administration, the development of the municipal territory, as well as welfare, water supply, sewage system, electrification, communication, the development of green zones in residential areas, solid waste treatment, municipal transportation, etc.

The development and implementation of a LEAP is also connected to local legislation, which, while not initially well developed, does not restrict activities either.

A. THE TROYAN ENVIRONMENTAL ACTION PROJECT

Basic Information

MUNICIPAL PROFILE

The municipality of Troyan is situated in the center of the semi-mountainous region, “Predbalkana,” on the north-
ern slopes of the Balkan Mountains at an altitude of 400 meters. It includes the town of Troyan and 21 small villages with a total population of 45 thousand inhabitants. The town of Troyan is a typical Bulgarian middle-sized town with 25 thousand inhabitants. The town spreads along the river Beli Osum. The Troyan mountains are famous for their natural landmarks. Two biosphere preserves are established in the territory of the Municipality: “Stenito” and “Goat Wall,” situated in the Middle Balkan Mountains. The most attractive places are the Goat Wall, with edelweiss, the Zelenishi Dol forest, situated on the river Kraiovitza, the Beklemeto tourist center and the Eagle Nest area.

Village Chemi Osum is 12 km away from Troyan and is located near the Stenito Biosphere Reserve. The reserve was established in 1979 and is included in the United Nations Educational, Scientific and Cultural Organization (UNESCO) program “Human and Biosphere”. Troyan used to be one of the centers of Bulgarian cultural life and also a well developed center of the revolutionary movement. In 1887, the town was completely burned down, but later rebuilt.

Despite good climatic conditions which provide the opportunity for year-round tourist activities, tourism in the region of Troyan is not well developed, but the beauty of the mountains and the historical heritage are important prerequisites for future extension of these activities.

The region is well-developed industrially, having facilities for lumber, food and machinery production, situated around the town of Troyan. There are three large tree felling enterprises and a plant for the production of fabricated lumber. The main environmental pollution associated with this industry comes from waste water containing timber residue and resin. A waste water treatment plant of the wood processing enterprise is not designed for the needed capacity, and large amounts of waste water are bypassed. Recently, Austrian incineration equipment was purchased which solved the solid waste problem of the plant. The Troyan region accommodates three state-owned furniture producing enterprises and a large number of smaller, private establishments. Some of the environmental problems associated with this industry come from petroleum spills posing risks for groundwater pollution. There are two state-owned enterprises for the production of meat and dairy products without workable waste treatment plants. There are also two producers using sand in the casting process: research is currently underway to determine carcinogenic effects of that hazardous waste.

The local government decision-making body is the City Council. It is comprised of 45 people who are elected in local elections. The decisions made and projects approved by the Council are implemented by the municipal administration, which has a mayor at its head. There are two permanent employees responsible for environmental issues under the Environmental Protection section of the Territorial and Residential Management Department.

The budget for environmental improvement is formed from two sources: The Municipal Environmental Protection Fund, which receives 40 percent of the pollution taxes, fines and certain percentage of the sanctions from pollution; and targeted funds from the municipal budget.

The municipality provides some services for its citizens funded by taxes and the budget - waste collection and transportation, cleaning up, greening activities and drinking water supply. The only comprehensive environmental protection program carried out by the municipality is the LEAP. Currently, there are certain environmental projects carried out in Troyan; e.g. the building of a municipal waste water treatment plant, and a managed landfill for municipal solid waste.

A local branch of the largest Bulgarian environmental NGO, Ecoglasnost-Troyan, has been working in Troyan. At the time of the LEAP development it involved 10 environmental activists. Public awareness of environmental issues was not very high at the beginning of the project.

**Goals and Objectives of the Project**

The original objectives as stated in the Cooperative Agreement between the USEPA and the ISC were structured in three groups: participatory decisionmaking, environmental planning and implementation, and institutional capacity-building. They were specifically:

- to assist the municipality in ranking environmental problems in Troyan, and in elaborating and implementing a local environmental action plan (LEAP);
- to obtain information from the ministries and regional inspectorates in order to improve the municipality’s ability to make managerial decisions to protect the environment;
- to encourage the activities of nongovernmental organizations at both national and municipal level to support the municipalities in resolving their environmental problems;
- to demonstrate in Troyan the process of resolving and implementing cost-effective and efficient decisions aimed at improving the environment, despite limited funds;
- to contribute to the establishment of environmental projects in other Bulgarian municipalities;
- to assist the municipality in ranking environmental problems in Troyan, and in elaborating and implementing a local environmental action plan (LEAP);
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nizations to municipal environmental protection programs, based on risk assessment. The report pointed out that such a program should include public education and the establishment of an active relationship between community members and the local government.

As this was a model project for Bulgaria, and there was no experience in this field, a foreign methodology for ranking environmental problems was utilized. This methodology, known as “comparative risk analysis,” proved to be the most appropriate. Under the guidance of the ISC, two project committees were established: the Technical Committee (TC) and the Strategy Committee (SC). The members of the SC were representatives of public organizations and the community. Their tasks and duties were to:
- search for new ideas and suggestions pertaining to environmental problems and solutions on behalf of the Troyan’s inhabitants;
- solicit public opinion;
- coordinate project actions with those of other nongovernmental organizations;
- review the information and analyzes made by the TC and provide assistance;
- develop a communication system with the authorities at all levels.

The TC—local experts with technical education and experience—conducted research work in various fields. Their task was to collect, analyze and provide information on the threats resulting from Troyan’s environmental problems. The ultimate task of both committees was the preparation of a municipal policy document: the Environmental Action Plan.

The Mayor officially appointed the members of both committees, as well as their chairpersons. Both committees were composed of volunteers—government employees, public activists, representatives of nongovernmental organizations, scientific workers at research institutes, medical workers, teachers, students and citizens interested in environmental issues.

Committees’ members participated in a workshop “Introduction into the Methods of Comparative Risk Analysis and Team Decision-Making” to obtain knowledge related to analyzing environmental problems, setting priorities, developing strategies to educate the public, involving the public in democratic decisionmaking, conflict resolution, and team work.

With a grant provided by the ISC, financial assistance was provided to Troyan for a fulltime coordinator, consultants, operating and office expenses, report preparation, and other related expenses. An additional grant of US$35,000 was provided by the ISC to start the implementation phase of the project. The Municipality was responsible for providing 10 percent in the form of labor or material.


The focus of the second phase was to list environmental problems, assess their scope, evaluate risk, and set priorities. The TC prepared a preliminary list of environmental problems based on the existing information and experience of experts involved. The SC identified all organizations and institutions dealing with environmental protection and elaborated a plan to involve the population in the implementation of the project. This phase had three stages:

1. Approval of a list of environmental problems subject to analysis.

The SC prepared a questionnaire for a public poll entitled “What ecological problems are considered most dangerous to human health and ecosystems?”. It was based on the preliminary list of environmental problems in the municipality. The questionnaire helped rank problems according to their importance, and also added other problems which the respondents considered important. Five thousand questionnaires were distributed among the citizens (80 percent rate of return). Analyzing the results of this poll, the SC corrected the list of problems, thus obtaining the revised list of environmental issues reflecting the opinion of both experts and the public. They were broken down into three risk categories: high, medium, and low.

2. Data collection and assessment of the scope of ecological problems.

The TC faced serious data collection problems. These problems were due to both a lack of information on certain problems and the refusal of some institutions to either provide information or to demand payment for the information. The workshop on comparative risk analysis focused on methods of collecting additional information and risk evaluation for members of the TC. The data collection form included this information: description of the problem; sources; additional stress factors; problem assessment criteria; data sources; basic information about the problem; problems in data collecting; suggestions about additional data.

These forms helped to discover critical gaps in the data. Different approaches, based on a prepared workplan, were used to collect data. This involved meetings with representatives from ministries, local agencies, institutes and industry. The ISC and the municipality cooperated with the Ministry of Environment in carrying out the first pollution monitor of ambient air in Troyan. Ecoglasnost - Troyan, with the assistance of the municipal council, carried out independent monitoring of the quality of drinking water from the central city water main.

3. Environmental Risk Assessment.

The TC prepared reports on all problems; they were designed for use by the SC and the public. A workshop to rank ecological problems for the TC’s members was held. In addition to learning about various approaches to problem ranking, participants role-played a team decisionmaking and consensus-building exercise.

The TC used the available information pool to define and describe risks according to the individual problem. To that end, sub-committees were set up to prepare a summary for every problem. The Citizen Committees were charged with studying 16 environmental problems in the municipality. In order to answer the question, “which of these problems pose the greatest risk to Troyan,” the committees reached the conclusion that the environmental problems pose numerous risks to human health, ecosystems, and the quality of life (quality of life risks include aesthetics, economic welfare, justice, future generations, psychological balance of the population, and sense of belonging to the community). Thus, each individual problem was analyzed according to the magnitude and severity of the risk to health, ecological systems and quality of life.

In identifying the risks, the data on the studied environmental problems in Troyan was compared with national standards in the areas of investigation which are published in various official documents. Indicators used for that comparison are specific to each problem and are determined by measurements and monitoring conducted by institutions such as the Regional Environmental Inspectorate, Hygienic Epidemiological Inspectorate, etc. In the case of Drinking
Water Quality and Quantity, the indicators were chlorine and fluorine content, mechanical composition, presence of purifying plants, water supply system, bacterial contamination, reliability of water supply.

A water expert prepared ecological audits on five industrial enterprises in the city. These evaluations were made available to experts hired by the World Bank to conduct a pre-investment study of the Cherni Ossum River Basin. The final report was presented in January 1993.

On the basis of these summaries, the TC prepared comprehensive, individual reports on all problems. These reports, which included information on the causes of the problems, were designed for use by the SC and the public. On the basis of these reports, both the SC and TC conducted rankings related to health, ecology and quality of life risk. These three risks were combined to develop an integrated and final risk ranking of the problems. The combined risks were classified into three groups of problems, arranged in descending order according to the magnitude of the risk: high, medium, and low risk. The final ranking itself was based on the following criteria:

- risk posed to human health, ecosystems and quality of life;
- importance of the problem to the public, based on a sociological survey.

The comparative risk process resulted in the prioritized list of the community’s environmental problems:

**High risk problems**
1. Quality and quantity of drinking water
2. Air pollution
3. Nutrition and health status of the population
4. Loss and degradation of forests
5. Radiation and electromagnetic pollution

**Medium risk problems**
1. Direct discharge of industrial and household waste waters
2. Air pollution in the working environment
3. Noise pollution
4. Direct discharge of sewage water from pig breeding farms
5. Soil erosion
6. Emergency releases of toxic substances
7. Effects of certain chemicals in industry, and introduction of new production processes and technologies
8. Industrial waste disposal
9. Smoking

**Low risk problems**
1. Landfills for solid household waste

**Phase 3 (January - June 1993): Development of objectives and identification and selection of strategies**

**Development of Objectives**

The committees worked out profiles for the two problems ranked as top priorities: Quality and Quantity of Drinking Water and Air Pollution. Brainstorm sessions, discussions and consensus-building were the processes usually used to prepare the profiles; committee members occasionally voted on decisions.

The profiles explain why the issue became a priority for the community. For instance, the quality and quantity of drinking water is a priority for Troyan because there are severe water supply restrictions. This, as well as other factors mentioned in the problem statement, contributes to higher concentrations of pollutants. One of the objectives outlined in the profile is to increase the quantity of drinking water. It is believed that this will also help to improve the quality and thus prevent some health and quality of life risks associated with water regime. Besides, a system of fair water distribution is required which should diminish the residents’ belief that their interests are unprotected and compromised. The resulting tensions and conflicts among different groups of water users and government agencies involved in water supply and distribution should also be diffused.

The profiles of problems describe possible strategies, actions and programs.

**Profile No. 1: Quality And Quantity Of Drinking Water**

Three components of the drinking water problem were identified: shortage of drinking water, poor quality of drinking water, and an unequal distribution of drinking water in the community. Objectives addressing these problems are: increase the quantity of drinking water, improve the quality of drinking water, and improve the fair distribution of drinking water.

**Profile No. 2: Air Pollution**

Three components of the air pollution problem were identified: air pollution as a result of the use of different fuels for heating, air pollution as a result of traffic, and air pollution as a result of industrial technologies. These objectives were set up to address them: reduce air pollution caused by fuel and burning of waste, reduce air pollution caused by motor transportation, and reduce air pollution caused by certain industrial technologies.

**Identification and selection of strategies**

Representatives of the project from the municipality, Ecoglansost and the Ministry of Environment travelled to the U.S. for two weeks to learn about U.S. community approaches to solving environmental problems. The strategies for resolving environmental problems identified in Troyan were used at a workshop organized there.

Since time was a factor of considerable importance in studying the problems and working out solutions, the committees decided to concentrate their attention on the high risk problems which were: Quality and Quantity of Drinking Water and Air Pollution. Public opinion supported the committees’ decision.

The initial list of specific strategies was achieved by means of “brainstorming” - the following categories were identified:

- Education and involvement of the public
- Economic incentives and disincentives
- Municipal programs
- Technical applications
- Regulations

Upon the outcome of workshops and brainstorming, the two committees merged into one citizen committee to increase work efficiency. This phase provided project members with knowledge and experience on programs and activities used in the U.S. to tackle environmental problems, especially those identified as top priority in Troyan.
CREATION OF THE LEAP

All this effort resulted in the preparation of summaries addressing the two highest ranking problems: drinking water and air pollution. These summaries included the following:

- Problem description
- Goal/objectives
- List of potential strategies
- Obstacles for implementation of each individual strategy
- Information about each strategy, according to the individual criteria

The profile of each problem included a maximum number of strategies for its resolution. Obviously, due to limited financial resources, shortcomings in the respective laws, lack of suitable structures (executive bodies), etc., not all of them can be implemented. For this reason, the committee’s task was to decide which strategies should be selected for implementation. In making these decisions, the committee collected information both in Bulgaria and abroad. For the selection of strategies with which to begin the implementation, the committee and external experts took into account which strategies could most realistically be put into operation immediately after the adoption of the Action Plan. The selected strategies were designed to bring fast results and be implemented with funding allotted for the Troyan project.

For the strategy ranking process, the committee used the following eight criteria: 1. efficiency, 2. total cost, 3. overall benefits, 4. equality, 5. flexibility, 6. environmental impact, 7. time of completion, and 8. public support. During this evaluation, the committee took into account the fact that not every criterion was of equal importance to the implementation of each strategy.

In order to take into consideration the personal views of the voters, and to avoid a situation where everybody votes for all of the strategies because he/she likes them and believes that they are all good, every member received only 10 votes for each strategy. People voted separately for each strategy. The ranking process resulted in selection of these three strategies which were included in the Implementation Plan to address the drinking water problem:

1. Eliminating leaks in the water supply system within the territory of the city;
2. Development and adoption of new local regulations;
3. Working out educational programs for schools and the public.

These strategies were offered to the public for consideration and comment, and were adopted by the committees for presentation to the Troyan Municipal Council. A detailed Implementation Plan was developed for the three selected strategies with these goals:

1. Reduction of water loss and partial solving of the problem of water shortage;
2. Drinking water requirements of the population to be met;
3. Encouragement of consumers to effectively use drinking water, fining those who waste it;
4. Increase in environmental consciousness;
5. Creation and update of the cadastre (map) of the water supply system;
6. Establishment of an effective payment system for water supply services;
7. Utilization of a fair distribution system among households and industrial water users;
8. Fair distribution of the water resource within the region.

In July 1993, the LEAP, including the Implementation Plan, was approved by the municipal council. It contains these elements:

- Summaries of all 16 problem statements. Every problem summary contains a definition of the problem and its greatest stressors (pollutants); description of risks to human health, ecosystems and quality of life; and a chart showing the committees’ risk classification of every problem. These rankings are based on information available to the committees and on both their views and those of the public of the strategies;
- Profiles for two top priority problems (drinking water and air pollution) describing strategies including five areas: education, economic incentives and disincentives, municipal programs, technical applications, and regulations;
- Implementation Plan detailing necessary steps and budgets for implementing priority actions.

Phase 4 (September 1993 - ongoing): LEAP implementation

The implementation of the three selected strategies began in September 1993. There were problems involved in the establishment and execution of the program: appointing an executor, organizational structure, starting point. The role of citizen committees during the whole run of the project, i.e. including the implementation phase, should be carefully planned: the committees’ members should be acquainted clearly with their tasks and responsibilities. Finally, implementation of the three strategies to address drinking water problems identified in the LEAP consisted of the following:

1. Leak Elimination: Two individuals were hired by the municipality. They identified leaks in the water main, inspected repair work carried out by the Water Utility and started to computerize the mapping of the underground pipe cadastre (network). More than 70 leaks were repaired under the program and one kilometer of old pipe was replaced. Leak detection was also carried out in the territory of three industries for a fee. The leak detection unit’s contract expired in December 1994.

2. Regulations/industrial audits: The municipality hired a lawyer to prepare a new environmental ordinance. Amongst other things, this ordinance states that water belongs to the public, it required industries to pay based upon the amount of water they used, and required them to file information on water consumption with the municipality. It also shifted responsibility to the largest industries to develop their own water supply, where feasible (ground water sources). The ordinance was approved by the City Council in spring 1994. Many industries have since developed their own water sources. The municipality hired a water engineer to conduct a water audit of the entire water system as well as specific water audits for the largest industries to determine how water was used. The study found that industries use a large proportion of the water, about 75 percent, and as a result, the industries were legally forced to pay for these audits. The industries received information related to waste, resulting costs, and specific measures that could be undertaken to decrease water use. The industries also had to present information to the Water Utility on
the cadastre and where it connected with the municipality's water main. Despite resistance to these audits, new regulations required concerned bodies to comply and cooperate with their conduct.

3. Environmental Education: In September 1993, the municipality opened a new Center for Environmental Education to focus primarily on environmental education in the public school system. Over a six-month period, numerous activities were initiated, including outdoor education sessions, but the municipality did not refill the Center Coordinator position, nor budget any further funds.

A delay of approximately one year in the implementation was due to a number of factors including a breakdown in the system of accountability and program management and lack of support from the Mayor.

B. STARA ZAGORA - THE COMMUNITY-BASED ENVIRONMENTAL ACTION PROJECT

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Basic Information

Municipal Profile

The municipality of Stara Zagora is located on the southern slopes of the Middle Deer Forest Mountain in south-east Bulgaria. It consists of the city of Stara Zagora and 23 villages located in its political boundaries. Population exceeds 200 thousand, of which 170 thousand live in the city (in Bulgaria, a municipality refers to not only the central city but also its surrounding villages; hereafter, though, city and municipality will be used interchangeably). The population density in the area is high; villages are large and close to each other.

Agricultural lands with high fertility occupy the southern areas of the municipality. The Bedechka River runs through its eastern parts.

Many kinds of industry can be found in the city: food-processing, chemical, building, electronics, machine-building, furniture, and textiles industry. A number of small, private processing enterprises for agricultural products have been recently established. Most cause heavy pollution. However, because the land area within the municipality is vast and the industrial sources are scattered away from the city, risk assessment indicates that the city residents are not overly exposed to industrial pollutants. In recent years, though, due to economic restructuring and the resulting decline in the economy, pollution sources have become increasingly varied, in that sources from other sectors, such as transportation, heating and energy, have become more prominent.

Stara Zagora is an important railway cross-point for north-south and east-west connections. The city’s public transport consists mainly of diesel fueled buses, and a small proportion of trolley-buses.

The local government is represented by a City Council of 51 members, elected for a four-year term. Approximately 230 people work in the municipal administration: the Deputy Mayor is responsible for environmental protection. There are six employees in the environmental department and environmental police. The Ministry of Environment has its Regional Environmental Inspection (REI) in the city.

Besides the budget assigned for environmental protection within the municipal borders, there is a Municipal Environmental Fund totalling US$60,000, using money collected partly from the privatization process, and from pollution fees and penalties imposed by the REI. The Municipality of Stara Zagora has begun some environmental improvement, the most significant being: gasification of the local household heating stations, replacing the diesel buses with trolley-buses and studies for a waste water treatment plant.

Public awareness of environmental issues is considerably high: there is an increasingly active nongovernmental organization community within the city. The NGO, Ecoglasnost-Stara Zagora, is foremost amongst those working on environmental issues. Although the local government does not fund local NGOs, it does support their initiatives.

GOALS AND OBJECTIVES OF THE PROJECT

The Community-Based Environmental Action Project was given the following goals:

• identify, study and rank local environmental problems by means of data collection, analysis, and prioritization;

• institutionalize a more efficient decisionmaking process, with respect to greater municipal responsibility for managing environmental problems and economic restructuring;

• improve the quality and flow of information between the national ministries, regional environmental and health agencies and municipalities in order to improve environmental management decisionmaking capabilities. This can be done by developing and utilizing mechanisms for coordination between relevant regional institutions such as the Regional Environmental Offices, health departments, academic institutions, and businesses;

• establish a process by which the city’s residents will be better informed and involved in decisionmaking. This is an effective means of building consensus and obtaining support for environmental solutions;

• provide a mechanism for NGOs and industries to constructively participate in environmental policy formulation and implementation;

• select and implement low-cost and cost-effective solutions to improve environmental protection through better management practices, pollution prevention, waste minimization, and improved efficiency.

LEAP Development

The Stara Zagora LEAP has been conducted according to an agreement between Ecoglasnost-Stara Zagora, the Municipality, and ISC. Ecoglasnost both initiated the project start-up, inspired by the Troyan LEAP project, and took the lead on the whole process. The ISC funded the project development and delivered training. The World Resource Institute (WRI), the U.S. provided expertise on setting strategies for local environmental problems through training.

PHASES OF THE PROJECT

The project consists of two phases—The Community-Based Environmental Action Project and the Environmental Policy Development Project. Each phase consists of several stages. As a result of the second phase of the project, a local
environmental action plan (LEAP) will be developed to address the environmental problems the municipality is facing. Phase 1 started in the end of 1992 and lasted until the second half of 1994; Phase 2 started in July 1994 and is currently in progress.

**Phase 1 (November 1992 - June 1994): Launching the project, collecting environmental information and setting priorities.**

1. **Organizing the project.**
   
   At the end of 1992, NGO Ecoglasnost-Stara Zagora began the preliminary organization of the Community-Based Environmental Action Project. The project was initiated by the Stara Zagora Ecoglasnost NGO and the city government at a meeting in the City Hall. Letters were sent to various institutions, such as the Regional Environmental Inspection, the Institute of Hygiene and Epidemiology, the Organization for Citizens Protection, the Institute of Human Medicine, and the Institute of Veterinary Medicine, as well as to the environmental departments of different factories. At the first meeting, the representatives discussed initial plans and volunteered to identify and study environmental problems and agreed to facilitate communication with the public.

   The formal set-up of the project followed the Troyan LEAP development's pattern. Participants in the project were divided into two committees - The Technical Committee (TC) and the Policy Committee (PC). Included were teachers, chemists, biologists and physicians. Tasks of the PC were:
   
   - conducting a public opinion survey related to municipal environmental problems and analyzing the results;
   - conducting a survey amongst PC members, analyzing results and comparing them with the results of the public survey;
   - carrying out public outreach activities to advertise the goals of the project;

   The TC tasks were set as follows:
   
   - collecting data on specific pollutants;
   - collecting and collating already existing information on the environmental situation in Stara Zagora;
   - conducting research activities on specific environmental problems and involving experts;
   - risk assessment and ranking of environmental problems.

   Committee members participated in methodology training sessions conducted by the ISC and Ecoproject Sofia. Apart from the topics related to public participation, environmental data collection and analysis, attention focused on team participation and problem-solving.

2. **Collecting available information on environmental problems.**

   Goals and objectives of the project were announced at a press conference, attended by journalists from the local newspaper and radio station.

   A public opinion survey - “Environmental Problems of the Stara Zagora Municipality” - was conducted by the Bulgarian Community for Education and Culture, which prepared the questionnaires, processed the information, and analyzed the results. The local newspaper, “South Post,” published information about the project, as well as results of the public opinion survey. The newspaper donated a free three-month subscription to those who participated in the survey. A brochure with information about the project was distributed with the questionnaires.

   The TC contacted approximately 25 sources to begin preliminary data collection, including; The Institute of Veterinary Medicine; The Institute of Human Medicine; The Central City Hospital; Veterinary Control; The Regional Environmental Inspectorate; The Institute of Hygiene and Epidemiology; The Organization for Citizens Protection; Bulgarcontrol and Agrobiochim. The TC funded independent research on the lead and cadmium levels in 40 children by the National Center of Hygiene, Ecology and Nutrition in Sofia.

   In some cases, the information was insufficient to make even tentative conclusions, while in other cases, when information did not confirm expectations, perceptions of some problems changed. Thus, descriptions were developed only for those environmental problems with sufficient information available to draw conclusions. Little additional research was necessary or, as was the case with air pollution, information was insufficient to make judgement, even though public opinion demanded action.

   The third training session for members of the project concerned comparative risk assessment. The seminar included both theoretical lectures and practical exercises.

3. **Report elaboration and conducting a public opinion survey.**

   TC members were divided into groups according to problem areas and additional data on particular problems collected, although most of the descriptions were developed by experts. Several reports related to different environmental problems were elaborated:
   
   - Urbanization and the environment;
   - Ayazmo Park - threats of environmental degradation;
   - Content of the soil in Stara Zagora Municipality as a result of pollution by heavy metals, fertilizers, pesticides, and as a result of erosion;
   - Waste - collection and disposal;
   - Hygiene and environmental assessment of the content of the drinking water in Stara Zagora;
   - Lead contamination from air pollution in Stara Zagora and lead levels in children;
   - Hygiene problems of ambient air pollution in Stara Zagora and its impact on the citizens’ health.

   Every report was presented to, and discussed amongst all committee members. A sociological survey with a sample group of 1280 citizens was conducted; this second, non-representative survey, was carried out by volunteers to publicize the project. Results of the survey were regularly published in newspapers with comments by specialists. Report summaries elaborated by the TC were regularly published.

4. **Selecting priorities.**

   During the preparatory period of this stage, the TC developed reports on various environmental problems which would be accessible to the general public.

   Both committees held an open meeting to present problems, hold a public discussion, and engage in a ranking process to reflect residents’ priorities and values based on given information. The full participation of citizens was encouraged. Everybody defined an individual risk level and completed personal tables.

   The ranking was compiled using the comparative risk assessment method according to three categories: impact on ecosystems, human health and quality of life. Both the TC’s reports and results of the public opinion survey were used for the ranking: the public opinion and scientific studies.
were merged. The environmental problems were combined into several problem areas: ambient air pollution, drinking water pollution, soil pollution, and solid wastes.

Results of the survey revealed that the impact on human health was considered to be the most important category, followed by the impact on ecosystems, and the impact on the quality of life. The committee ranked the problems as follows:
1. Ambient air pollution from low-stack and mobile sources
2. Drinking water pollution
3. Solid wastes
4. Soil contamination.

This result was equal to the results of the public opinion survey and, consequently, the final ranking remained in the same order. The project and results received considerable coverage by local media and were approved by the City Council.

With the completion of the fourth stage, ranking of local environmental problems, the first phase of the Community-Based Environmental Action Project was complete.

**Phase 2 (July 1994 - present): LEAP creation.**

This phase has been carried out in two stages:

1. **Organizing the project.**

   Three established working groups dealt with different problems according to the previous ranking:
   - Ambient air pollution;
   - Drinking water pollution;
   - Terrain contamination (including soil pollution and solid wastes).

   This stage was to identify and study possible action and make their selections based on cost-effectiveness, ability to be implemented within a relatively short period of time, potential to improve both the environment and residents’ quality of life and acceptability to the public.

   A workshop, “Setting strategies for solving the environmental problems of Stara Zagora,” was organized for project members, the Ministry of Environment and Ministry of Finance officials, and staff of REI. Seminars covered topics such as national policy related to air pollution reduction and its solution, and strategies for energy efficiency. Discussions included strategies related to the impact of local government mandates and national policies on local- and national-level; a list of possible strategies for each of four environmental problems was elaborated.

2. **Defining clearer goals and strategies.**

   Work groups collected information about strategies, identifying two major strategies for reducing air pollution from low-stack sources:
   - Conversion of district heating from high sulphur coal to natural gas;
   - Energy efficiency.

   More detailed steps were identified for each strategy. Participants agreed that conversion to gas should be pursued as soon as possible and defined specific steps, some of which are:
   - Implementing a municipal program for a gas distribution network for industrial and domestic consumers;
   - Designing a mechanism to make small loans available to households;
   - Public outreach and information;
   - Development of a set of incentives/disincentives for gas heating.

Two necessary steps were undertaken prior to implementation of selected strategy, addressing the top priority problem (air pollution from low-stack and mobile sources):

a) The city government, authorized by a decree of the City Council, formed a partnership with the Bulgarian company, Overgas Inc., for the construction of the gas distribution network. The purpose of this partnership was to establish the institutional vehicle to supply the city with a clean, efficient and economic fuel source and thus abate air pollution. However, difficulties arose with households due to the poor financial condition of both the city and many residents. City officials realized that for this purpose they would need the support of national agencies that could assist the municipality in exploring possibilities and look for financing opportunities.

b) A national task force (TF) was formed primarily to coordinate the Stara Zagora project with other NEAP activities, and to act as a role model to other municipalities. The TF included ministries, municipal government, and businesses. Sharing information about Stara Zagora project and involving national agencies through the TF proved instrumental in the financing of the household conversion to gas. The Ministry of Environment, TF and USAID selected the Stara Zagora household fuel conversion project as eligible to receive the US$ 1 million from the USAID NEAP project financing grant. All these activities are accompanied by a consistent public awareness campaign in the media and residents’ preferred information sources.

The actual implementation was preceded by a number of steps designed to provide answers to questions about cost, willingness and demand for conversion, loan terms and mechanisms. For this purpose:

- Cost of gas connections and conversions was assessed for the different types of households;
- A household survey was conducted to assess demand for gas and willingness to take out loans;
- Members of the TF and experts were consulted about the legal constraints and possibilities to establish and run a municipal loan program.

**Conclusions**

**ACHIEVEMENTS**

**Cooperation**

The main asset of the development of the LEAP is bringing together people from different interest groups to jointly find solutions for problems they face. In a society with a history of 45 years of oppression, this type of venture is especially important with respect to efforts toward democracy. Discussions included issues such as equity, security, and broader access to environmental information to increase public awareness. Encouraging people to believe that they can participate in the decisionmaking process affecting their community, and that they can influence the development process by transforming decisions into actions, is of the utmost value.

**Capacity building**

Local government’s capacity for environmental planning and implementation is limited; it can be supplemented by involving the public and establishing processes for collaboration with other local institutions. The LEAP development strengthened the capacity of both local administration and
the public to manage environmental issues.

**Education/training**

Training in areas such as public participation and team decisionmaking give real meaning to the term “community-based project.” Training included technical skills and knowledge (collection of environmental data, risk analysis, etc.) as well.

**Dialogue**

A fundamental dialogue in environmental issues between the national and local governments was established; the national government observed the Troyan project and provided assistance in the implementation of the air monitoring system. National government involvement can facilitate, support and replicate successes and remove obstacles.

**Experience transfer**

Experience gained has been used to replicate the project nationwide: the Stara Zagora project was initiated by Ecoglasnost Stara Zagora as a direct consequence of the Troyan Community Environmental Action Project. The national movement of Ecoglasnost established a national office to use experience from both cities in six communities. The Association of Municipal Environmental Experts was formed by municipal environmental officials as an independent organization to facilitate the sharing of successful experience, to identify solutions to common problems, and to communicate with the national government on behalf of the local governments.

**Weaknesses**

**Information**

Lack of information and difficult access to information were serious obstacles: different approaches were utilized in an attempt to overcome this obstacle ranging from official letters to personal contacts. In the future, more effort should be made to involve people from as many different institutions as possible and with as many different backgrounds. More time and effort in gathering environment-related information and studying the environmental problems prior to the ranking process would provide a more precise basis for decisions and their communication to the public.

**Resistance within the community**

While the enthusiasm of the people involved in the project was paramount to its progress, strong resistance by some citizens was observed. Enormous work needs to be done to change local habits and the perception that everything is secret and nothing can be changed. The population needs to be convinced of the possibility and need for self-determination on an individual basis, as well as collectively in relation to control over their environment.

**Sustainability**

The SC did not manage to develop its long-term vision of its role in the social life of Troyan. It also failed to establish a sustainable collaborative relationship with a local government.

**Foreign input**

Foreign aid was a prerequisite for the initiation of projects, and their development. Lack of experience in community-based activities and financial deficiencies is a common feature of most communities in Bulgaria.

**Obstacles**

**Unclear laws and responsibilities**

Many confusing provisions of the law need to be clari-

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*Country Report: Bulgaria*

*Local and Regional Environmental Action Plans*
Introduction

BACKGROUND

Following the political changes in 1989, local governments have been faced with a number of problems caused by the former political system. The system was characterized by a merger of legislative, executive, and judicial power. At the local level, this fact led to environmental problems being ignored, breaches of the law, a low level of legal awareness, and to a form of collective irresponsibility on behalf of the municipality toward the environment. After the Act on Municipalities was passed in 1990, the municipalities obtained the legislative tools necessary to solve environmental problems. However, local governments in towns and villages have not succeeded in attracting citizens groups to become involved in municipal activities in general and it did not become common to involve citizens in the municipal decisionmaking processes. Local governments and self-governments have remained obscure entities, difficult to understand for citizens. There are too many local government employees at different levels of the state administration who have retained their posts, and they are unwilling to change their work habits and relationship with citizens.

The municipalities need to find new ways to finance necessary investment activities, including those which directly influence the quality of the environment in the municipalities and region. However, the non-systematic approach towards municipal problems has led, in many cases, to investments which did not bring expected changes. A significant portion of government municipal subsidies has been kept and frozen at the regional level due to continual arguments about the priorities of the municipalities. Other funds became virtually ineffective due to poor investment strategies; they are often not in accordance with original plans and/or legal regulations. Most municipalities do not have clearly defined and comprehensible environmental policies, which would include ranking of priorities in environmental problem-solving, timetables related to policy implementation, tools for public participation in its implementation and strategies to obtain financial means, especially at the local level.

Following the 1994 Fall municipal elections, political will has been created at the Kolin City Hall. Interest has arisen to cope decisively with the environmental challenges of the municipality, including the involvement of citizens at all levels.

Kolin was chosen as a model town from a selection of five municipalities; (Kolin, Decin, Liberec, Vsetaty, Vratislavice n.N.). Justification for its selection was that it is a medium-sized municipality of district size, with an adequate pollution level. Detailed selection criteria were:

- industrial town with chemical and machine industries;
- middle-size town of a district size;
- location in the basin of a big river;
- location in agriculturally intensive landscape, with partially preserved natural landscape-forming elements;
- little public participation in environmental activities;
- common problems in communication between the local government and citizens.

LEGAL FRAMEWORK

The role of local authority municipal governments is sanctioned by the Constitution of the Czech Republic and by several other acts. A new plural democratic system of management of municipal affairs has been established.

The Act on Municipalities (No. 367/1990) gave municipalities the legislative tools necessary to deal with environmental problems. Each area of state administration has to provide all information on the state of the environment to the public; this liability is settled in the Constitution of the Czech Republic. No special promulgation or decree defining scope and depth of environmental information has been passed for this purpose; it remains the individual decision of municipalities and their respective offices as to how they interpret the law.

Municipalities are not obliged legally to develop any long-term comprehensive plan or program for environmental protection within their authorities, except a program related to municipal waste management. (municipalities are considered producers of waste, similar to enterprises; they have to work out a program of municipal waste management according to Act 238/1991).

Although the law does not require plans for municipal environmental management, many have been developed recently as a requirement for financial support. A municipality applying for a loan or grant from the State Environmental Fund, Program for Revitalization of Countryside, etc. for example, to improve the quality of drinking water, is supposed to submit a comprehensive concept paper related to the water situation in the municipality.

Basic Information

MUNICIPAL PROFILE

The town of Kolin belongs among the significant industrial residential agglomerations situated in the Elbe Lowlands, about 50 km east of Prague. Kolin is a middle-sized city, with an area of 23 sq. km, with 32 thousand inhabitants. About one half of the total municipal area is agricultural land.

The area includes electronic, chemical, polygraphic, and processing industries. In 1995, there were a total of 76 production companies registered in the municipality. Many industrial plants were established as early as the last century. This was the reason for merging the industrial and residential zones of the town. This integral body of the town is the cause of many problems in environmental quality, as perceived by the citizens.

The most significant polluter in Kolin is the chemical industry. Kolin chemical plants occupy more than 30 percent of industrial land, but employ less than 10 percent of the...
production sphere employees; it represents seven percent of all employment opportunities in the production and processing industries. Moreover, as the plants are dependent on sufficient supplies of water, they are situated on the bank of the Elbe river and occupy the best quality land. They have caused irreversible pollution of ground water sources. All the three chemical plants (Lubne zavody, Darslovka, Koramo) occupy an area of 95 hectares, i.e. more than all the Kolin concentrated apartment building area, including basic maintenance and service areas, of the town.

The river Elbe flows northwest through the town center. The Kolin municipality includes 228 hectares of forest land and 136 hectares of fishing ponds. In Kolin, there is no significant natural formation especially protected by law; there are several parks which are being revitalized within the LEAP project. Expert projects were calculated and funds for its implementation were secured for 1996.

The municipal authorities consist of a Municipal Assembly, Municipal Council and its bodies, and a Mayor. These authorities are elected for a four-year term. The municipal assembly approves programs related to development, budget, and regulations; the Council is the executive organ of the municipality responsible to the Assembly. The municipal office has 85 personnel; six officers work in environmental management. They participate in various specialized training courses on environmental protection.

The main source of municipal income comes from the state budget in the form of subsidies. The municipal budget for 1995 was US$13.3 million, of which US$2.1 million (15.8 percent) was assigned for environmental protection. The environmental budget was allocated for these particular areas: landfill reclamation 60 percent, waste water treatment plant nine percent, ozonation of water (drinking water treatment) 19 percent, vegetation maintenance six percent, and gasification five percent.

The municipality does not have a comprehensive environmental protection program at the moment. There have been three major environmental projects carried out recently: Complex waste management systems in the districts of Kolin and Kutna Hora (neighboring city), a system of animal protection, and conversion of small sources of air pollution at local and regional scale (gasification).

The CSOP Kolin (the Czech Union of Nature Conservation) — a branch of the biggest Czech environmental NGO — is the only environmental NGO in Kolin focusing its activities essentially on nature and landscape protection. It does not enter significantly into other environmental sectors, nor does it communicate with the municipality in Kolin. As in many other municipalities, a totalitarian approach still exists between the authorities and citizens. NGOs often clash with municipal officials when attempting to solve urgent problems of the municipality; moreover citizens often feel their complaints, comments or proposals are ignored. The CSOP is the only partner as an interest group in the project representing public opinion.

PROGRESS GOALS AND OBJECTIVES

The project’s goals and objectives have been based on problem analyses of ten different municipalities in the Czech Republic, varying in size and geography. The analyses utilized experience of local and district governments, as well as the results of sociological surveys and a public opinion poll conducted by the town of Liberec. Projects will be achievable only with the full support of the municipality and by creating a suitable political climate for their development. This includes:

- Improving the trust of citizens in the function and objectivity of municipal decisionmaking by designing an environmental information system for the general public;
- Implementation of a role model of cooperation between a municipality and the public in environmental decisionmaking;
- Create and implement a system of financing municipal environmental investments from local and regional sources;
- Cope gradually with environmental problems as outlined in the local environmental action plan.

PROJECT’S OBJECTIVES

1. Involve various citizens groups in the LEAP development
2. Devise an environmental action plan for Kolin
3. Discuss a program of environmental protection with the general public
4. Design a new organizational structure for the Municipal Council as a precondition for the LEAP implementation, which will lead to:
   - greater transparency of municipal activities;
   - improved communication between the municipality and citizens;
   - establishing mechanisms of continual cooperation between the municipality and the public at managerial level.

PROJECT DEVELOPMENT

Arrangement

The initiator of the Kolin LEAP project was the Institute for Environmental Policy (IEP) in Prague, inspired by similar projects implemented in other countries in transition to a market economy. Cooperation with the town of Kolin has been based on mutual trust. At the end of 1994, coalition parties forming the City Council decided to design an action program for municipal environmental problems. This decision was based on parties' election political programs, which included a sound and favorable environment as one of the top priorities. The IEP started negotiations with the municipal authorities, explaining the importance of the LEAP for the city development shortly after the election: this proved to be an appropriate moment for such action, since the Council was formulating municipal environmental policy and members were very open to ideas and proposals. The project was discussed and approved by the advisory body of the municipality, the Committee for Environmental Protection, and eventually by the City Council, which allocated US$5,000 from the municipal budget for the project development.

The Committee for Environment consists of 15 members representing the general public and NGOs, all of whom deal, in one way or another, with environmental protection in their professions. In the starting phase of the project, it was important to obtain the cooperation of various departmental staff at the Town Hall. In forthcoming project phases, the agreement and interest of the municipal representatives, the Mayor and also the Committee for the Environment, will be crucial.

The IEP has prepared a methodology for the local environmental action plan, based on experience in state adminis-
PROJECT PHASES

The Kolin LEAP is being developed in five phases; begun in January 1995 after a certain period of preparatory work and negotiations with town authorities. The project's outcome will be submitted to the Council by the end of 1996. A system of cooperation between the town’s government and its citizens (one of the project’s goals) will be tested and necessary changes made during 1997. Implementation of action plans for some priorities is scheduled for the period 1997-98.

Phase 1 (January - December 1995): Environmental data collection

Stage 1 (6 months): Collecting data on local environmental problems, and their broad definition.

First, human activities affecting particular environmental sectors in the municipality were identified by means of a sociological-environmental survey. IEP prepared questions on municipal problems related to various spheres of life, although they were not limited to the environment. A professional poll company designed the questionnaire to avoid any ambiguity. Recipients of the survey represented all ages and social classes, municipality employees, members of the Municipal Assembly, NGOs, and selected independent experts. The goal of the survey was to establish citizens’ opinion on the state of the environment in the town of Kolin; people also expressed their views on social, economic, and legislative issues.

Objective information on the condition of the environment was obtained from industrial enterprises, the main polluters within the municipal territory. Each provided all available information concerning their past environmental damage and present polluting. Risk studies and environmental audits (most enterprises conduct these studies on a voluntary basis or as required supporting documents for loans and grant applications) were sources of precise data on the present environmental pollution. An environmental-economic survey was conducted in 32 main Kolin's enterprises to obtain information on the relationship between pollution and the economic situation.

The municipality does not have data on changes of environmental quality within its territory caused by the ongoing economic transformation since 1989. Since 1970, a system of environmental data collection in the municipality has instituted. The informative value of these data is very controversial due to conflicting measuring methods and the need to conform to the governmental needs of the time (positive environmental data were often used as part of the propaganda process).


Preliminary results of a sociological-economic survey were analyzed in cooperation with the District Hygiene Inspectorate (DHI), and the public view subsequently compared with available data.

Results showed that approximately five percent of Kolin’s population directly linked their health with the condition of the environment (both working and non-working). This opinion closely correlates with data collected by the DHI (allergic and asthmatic diseases, and respiratory syndrome). Fourteen percent of the respondents associated a poor working environment with health problems; the same number, however, is not sure of any link between these two factors. Sixteen percent of respondents considered the non-working environment a direct cause of health problems such as asthma, allergies and respiratory diseases. Only a very small number of respondents believed the environment could cause malign tumors in children; statistics related to these diseases are within country averages when compared with similar cities.

Phase 2 (January 1996 - ongoing): Priority setting, selection and design of remedy strategies addressing priority problems

All analyses for establishing priorities focused on the direct impact of the environment on human health. Ecological risk assessment was not carried out, since there were no natural ecosystems; risks posed to managed ecosystems would not be very conclusive.

Identified problems were prioritized under two criteria:

- health risk perception by local residents (resulting from questionnaires)
- data on condition of local environment

Ranking of environmental problems was established according to the relationship between probable and proved occurrence of diseases, and particular factors related to environmental pollution.

The Quality Health Risk Assessment (QHRA) method was used to assess the environmental risks posed to human health. QHRA is an evaluating method used to establish...
whether health damage or death has been caused by environmental impact. This approach was chosen as a standard methodology for analyzing industrial risks to public health (industrial production—chemical and machinery—is a crucial factor affecting the state of environment in Kolin). This methodology has been known since 1989 in the Czech Republic; both government agencies and private firms analyzing the environment have adopted it. The QHRA's results were compared with the priorities listed by citizens, and the final ranking of environmental problems is as follows:

1. air pollution (stench and risk pollutants from industrial production that have not been monitored);
2. drinking water pollution (sensor quality and toxicological pollution with dichlorobenzenes);
3. household waste;
4. animal protection (identification, and home for stray animals);
5. reconstruction and maintenance of city vegetation;
6. completion of a city sewer and sewage water treatment plant (work started in 1995 with a loan from a national environmental fund; currently additional money must be raised).

Creation of the action plan

Selected strategies for addressing the waste problem were outlined in a comprehensive action plan which focused on management of household and industrial (including hazardous) waste. This action plan is considered a pilot study since it has become obvious that neither municipalities, nor their specialized organizations, have reliable information on energy-material flows in their territories, financial flows have been distorted and have not indicated real costs.

This action plan will be presented and discussed by local government bodies, and the Environmental Committee, to be approved by the Municipal Council and the Assembly. This two-round approval procedure is necessary for the adoption of the plan by local government. The action plan for household waste management consists of these components:

- institutional: transformation of specialized municipal organizations (providing technical services) from budgetary organizations to self-financing ones; this provision will improve financial efficiency;
- legislative: municipal decree related to waste disposal (must be passed by the Municipal Council);
- organizational: gradual steps and provisions to introduce an integrated system of waste management (separation, recycling, disposal); disposed household waste will be reduced by 40 percent, hazardous waste by 55 percent.

This action plan is to be completed by the year 2000; it is broken down in partial, yearly steps. Four-year planning is comprehensible and realistic for people living in smaller communities: they are accustomed to organizing their work in four-year agriculture cycles. Objectives of these partial steps are tangible and the implementation process can be effectively controlled.

Next step is working out an action plan for the next priority problem: a system for animal protection. The development of action plans for other priorities is dependent on further negotiations with local government.

The action plan will be financed locally and regionally (municipal obligation emission, leasing, bank credits). The integral system of waste management comprises two other nearby towns within a range of 16 km—Kutna Hora and Caslav—such a system becomes economically effective only in an area with a population of more than sixty thousand.

Another mechanism created within the LEAP framework will strengthen its sustainability: the establishment of six new environmental sub-committees - advisory bodies to the Council—was proposed to the Council. These sub-committees are designed for those areas identified as problems for the municipality which can be influenced by citizens and thus committees as well. The main goal of their establishment is to involve the public and promote regular cooperation with the local government on environmental issues. Their main task will be:

- Identify problems and propose solutions;
- Raise public awareness (lectures, publications);
- Comment on both pertinent projects and regulations;
- Initiate and submit motions to relevant state administration bodies.

Implementation of selected strategies is scheduled for the period of 1996-98.

Conclusions

Achievements

Participation

Many institutions have joined the project to provide environmental information and expertise. Enterprises already privatized willingly made available information (there is a substantial difference between private and state-owned companies).

Most citizens accept the LEAP project in a very positive way as an opportunity for participating directly in municipal decision-making. The environmental-sociological survey raised citizens' interest in the project and the environment in general.

Members of the Municipal Council generally supported the project and assisted in its analysis.

Institutional Strengthening

Establishment of new environmental sub-committees dealing with concrete, environmental issues identified during the LEAP development will increase substantially the participation of the public and its ongoing cooperation with local governments. The sub-committees will be assigned important initiative and control powers.

Weaknesses

NEAP link

The environmental action plan for Kolin is being developed without any relation to the State Environmental Policy—document approved by the national government of the Czech Republic in August 1995. It is a very vague paper and does not provide guidelines for environmental management at a regional or local level. Central authorities have not been involved in the project.

Obstacles

Information

Absence of recent environmental data, low informative
value and reliability of data publicized before 1989 was a serious problem. This was partly overcome by the willingness of different industrial companies and enterprises - polluters - to provide information on their own pollution of the environment.

**Legal basis**

The non-existence of higher, self-governing bodies prevents the whole project from being placed within a broader, regional setting; the creation of middle-tier government is still being discussed. Despite improvement, municipalities still have problems managing environmental issues (e.g. air pollution from large sources) as well as raising money.
Introduction

Background
The Hungarian system of local government is in the process of reform. At the same time, many changes have resulted from the political and economic transformation of the whole regime (elections, privatization, etc.). New acts influencing both local government in general and environmental protection management have been passed.

In 1994, the national government worked out a National Environmental and Nature Conservation Policy Concept that represents an authoritative document, setting guidelines for environmental protection for a period of six years. Among its leading principles belong sustainable development and the regionalization of environmental policy (it allows local and regional governments to stipulate even stricter limit values, environmental requirements and environment pollu-
tion fees within certain legal framework).

Municipalities have been recently given a much larger mandate than under the former communist system. Many community services such as water supply and municipal waste disposal became the sole responsibility of municipalities. But despite the withdrawal of the state from many activi-
ties, there was no corresponding wholesale transfer of funds to support these services. Only 35 percent of all collected taxes are re-allocated to the municipalities: most municipalities are consistently running deficits. The money provided by the state for environmental remedy shrinks every year, and the distribution of this money is effected by political considerations and lobbying.

Legal Framework
The Municipal Act passed in 1990 determines that a municipality must convene a residential rally minimum once a year. The real effect of this policy is doubtful because it is prescribed. The situation is improving now because more and more mayors are adopting public participation practices in decision making. One problem, however, is that the public is often ill-informed about the environment and its problems.

In December 1995, the new Environmental Protection Act was passed. It fills some former gaps and solves inade-
quacies of previous environmental regulations:

- The public should be advised of all events and data concerning the environment and public health. Authentic data and professional information should be transferred.
- Environmental Impact Assessment should be made in all cases when human activity concerns the environment, such as establishing any kind of industry.
- Government agencies have the right and duty to mea-
sure and control before, during and after industrial (including agricultural) activities if it is necessary by law or civilians’ request.

- Organizational structures should be established to repre-
sent civilians. Regional Councils have to represent the interest of civilians and NGOs.
- All municipalities should employ environmental protection personnel.
- Government Funds are available for municipalities only in cases where their are no individual environmental budgets available; municipalities are advised to calculate a comprehensive plan for environmental protection.

The following examples of regional and local environ-
mental action plans demonstrate the use of environmental planning as a tool for environmental protection in the transi-
tion period between the acknowledgement of environmental problems and the ability to solve them.

Environmen
tally-Focused Local and Regional Strategic Planning in Rackeve-Soroksari (RSD) Danube-Branch Ecoregion

Basic Information

Background
In 1994, the Canadian Urban Institute (CUI) established a two-year technical assistance program — the Canadian-Hungarian Municipal Assistance Program for Environmental Management — to facilitate the creation of municipal and regional planning and management systems based upon the principles of democracy, sustainability and a market econo-
my. Funded by the Bureau of Assistance for Central and Eastern Europe of Canada’s Department of Foreign Affairs
and International Trade, part of the program (“Environmen-
tally-Focused Local and Regional Strategic Planning in RSD Danube-Branch Ecoregion”) is to support the development of a regional strategic plan, focusing on the environment in the Rackeve-Soroksari Danube branch. A central focus of the project was put on the creation of numerous local and a regional community-based strategic plans.

Specifically, the program focused on:

- promoting the coordination and integration of the efforts of national, regional and local government and agencies;
- establishing mechanisms for wide-spread and meaning-
ful community involvement; and
- providing training for Hungarian officials, professionals and local residents on practical issues related to municip-
al and environmental management.

Based upon the watershed of the Danube branch, the
### Numbers of Residents of the Region’s Settlements, and Their Water Supplies and Waste Water Treatment Availability

<table>
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<tr>
<th>Municipality</th>
<th>Number of residents (000)</th>
<th>Number of week-end dwellers and tourists (000)</th>
<th>Households with water supply (%)</th>
<th>Households connected to sewerage (%)</th>
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<tr>
<td>Budapest IX.</td>
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selected area for the project incorporates four southern districts of Budapest and 21 settlements located downstream from Budapest. Half of these settlements lie on the environmentally-sensitive area of Csepel Island, between the RSD auxiliary and main branches of the Danube (although the RSD Ecoregion is an environmentally sensitive area—ESA—there is no such legal status for valuable areas in Hungary; in the UK for example, the ESA concept is well defined and used). Legislation for ESA has been already proposed, but has not been passed.

REGIONAL PROFILE

The RSD Ecoregion is a 900 sq. km area which constitutes the watershed of the Ráckeve-Soroksári Danube Branch, located to the east of Csepel Island. This 58 km-long branch is regulated with two locks and turbines at both ends to avoid floods; the speed of the RSD is slow relative to the main branch, averaging 10 cm/sec (the main branch flows at 2m/sec). The slow flow causes a lack of oxygen, slow water exchange (it takes several weeks for a complete exchange of total water-mass), eutrophication and dangerous build-up of sedimentation, especially in the Northern part of the RSD Ecoregion branch. Along the main branch, there are numerous wells—sources of potable water for Budapest: the capital city discharges its sewage into the Danube, 80 percent of which is untreated.

Infrared photography revealed that many shore areas are, in fact, floating bogs. There are only two more examples of this natural formation in Europe, in the Loire and Drava rivers. This rarity of nature, instead of releasing the products of normal metabolism into the water, transforms the nutrients into bio-mass (peat) and stores them, and therefore plays an outstanding role in purification of the water.

There is a big gap between water supply and sewage treatment as the consequence of non-integrated regional development: water supply and sewage should have been developed in a parallel manner. About three million m$^3$ of communal sewage is produced annually, of which only 10 percent is purified: the rest is seeping into the soil from leaking septic tanks. One third of this quantity is generated directly in the hydrogeological protection zone of drinking water sources. Additionally, significant pollution is caused by recreational fishermen. Despite decreased industrial and agriculture production decreasing pollution, it remains dangerously high. Another problem is caused by waste: six unsafe, almost full landfills, are in the area.

The RSD Ecoregion population is approximately 300 thousand, while the communities located outside of Budapest account for about 30 percent of the inhabitants. A significant number of weekend dwellers and tourists (almost 50 percent of the Budapest population) must be considered both in terms of housing and impact on the environment. Many weekend houses and cottages have been built along the RSD branch; due to a lack of regulations, they were often built directly on the shore, preventing access to the water and without sewer connections. Residents believe that improved environment will attract even more tourists and create job opportunities.

Municipal Councils create different committees to transfer some power: there is no Environmental Committee, mainly in the smaller communities; environmental protection is managed by the wider Committee of Settlement Development etc. (according to the new Environment Protection Act, all municipalities have been obliged to employ an environmental specialist since the beginning of 1995). Many smaller municipalities do not run a separate environmental budget; although fines are levied for pollution, only 20 percent of this money is returned to the municipality from the central budget.

NGOs are being slowly established. Some NGOs operate regionally: the Association of Csepel Island and Region Municipalities, Association of Budapest Agglomeration Municipalities, National Fishing Association. Environmental NGOs’ interests have sometimes clashed with those of municipal officials or local groups. But more and more examples of cooperation can be observed recently: some municipalities realized the usefulness of joint ventures and finances (more money is available for environmental NGOs activities now). Such co-operative action included tree planting, for example, where one municipality donated trees for another to plant; clean up activities; the Earth Day activities; environmental education at some schools: Environmental Days are held with experts’ lectures and excursions to the RSD region; boat trips and regatta are held several times a year to attract the media and the government to the RSD Ecoregion. NGOs’ representatives are appointed to the Environmental Committees of the Councils and can participate directly in the decisionmaking process.

GOALS OF THE PROJECT

The basic goal of the project is to provide the participating levels of government with the expertise necessary to develop comprehensive strategic plans; and based on those, the first cycle of an environmentally-focused regional strategic plans. The four basic objectives for attaining the project’s goal are as follows:

- Develop a decisionmaking process involving all levels of government for the solution of concrete problems. The procedures adopted while working on the strategic plans will establish the framework for future cooperation.
- Impact: creation of strategic planning processes at local and regional level which involve key stakeholders in a meaningful manner.
- Conduct training in the development of promotional materials, such as community profiles and submissions for obtaining public, private or international financing/funding.
- Impact: to obtain governmental funding for the creation of environmental infrastructure and services.
- Strengthen the capability of municipalities in the RSD Ecoregion to promote and enhance their economic vitality in an environmentally sustainable and democratic manner.
- Enhance an understanding of the need for, and use of, applicable strategic plans, and provide the necessary capabilities to develop such plans to effectively address municipal development and environmental management concerns.
- Impact: Strengthening of capabilities that support the creation of multi-stakeholder strategic planning processes for environmental rehabilitation.

Development of regional and local action plans

ARRANGEMENT

Preparatory work for the project started in 1993 when
the highest representatives of Hungary (the President, Prime Minister, and the highest representatives of Hungary (the President, Prime Minister) expressed their support for the idea of developing strategic, environmentally-focused, plans for the RSD Ecoregion. Another important milestone was the establishment of the Association of Csepel Island Municipalities, a volunteer-based body helping to coordinate the project and serving as a tool securing sustainability of the project in the future. The Association was established only in 1995 after two years of legal problems with its registration. Association membership consists of 19 municipalities.

In the beginning, the CUI contacted all communities in the given area to solicit their participation in the project. Twenty five communities agreed too take part, each assigning a contact person for the project cooperation. Thus, the RSD Ecoregion was defined as the 21 communities and four Budapest districts which lie within the watershed borders (including largest polluters).

Communities were advised about the basic aspects of the process and results: a two-year strategic plan with an environmental focus would be established in the region based on volunteer workshops; they would be opened both for the public and for experts. Workshops would be structured according to the main structural elements of future environmental plans:
- values (positive assets and attributes);
- vision for periods of between five and 15 years;
- problem identification (including ranking);
- goals and objectives;
- action plans.

**PROJECT PHASES**

The project was scheduled for January 1994 to December 1995 in five phases (Phase Five was planned for implementation of the regional plan). Phases were not executed necessarily in a consecutive order. Due to some delay in different phases of the project, the fourth phase was reached in December 1995. A draft of the Regional Environmental Action Plan (REAP) was created, comprising the main principles of environmental protection for the region.

**Phase 1 (January-July 1994): Project structure development.**

By involving members of the community in the management structure, the project was then seen as "locally-owned" and therefore more legitimate, thus ensuring a greater chance of success.

A few official project bodies were established:

- An Advisory Committee (AC) was set up of high-ranking officials from relevant national, regional and local agencies; the major responsibility of the AC was to manage the project and ensure the achievement of its goal and objectives. Financial resources were provided by various Hungarian organizations represented on the AC. Membership of the AC was flexible, in order to ensure that further members could join when the project gained momentum.

- An Operative (Executive) Committee was established from selected members of the Advisory Committee to cooperate with the CUI in providing expertise on the project’s planning process.

- The Canadian Urban Institute In-Country Office (Project Coordination Office, PCO) was established to assist the AC. A Canadian advisor assisted local communities undertaking participatory strategic planning processes at the beginning of the project; as the emphasis shifted from local- to regional-level, the office was re-staffed by Hungarian experts supporting this planning process - coordinating the Environmental Regional Plan preparation and involving local residents.

  - The Strategic Planning Sub-Committee, consisting of planners who worked in the RSD Ecoregion and planners in the AC.
  - The Environmental Technical Sub-Committee to gather and assess information related to environmental problems and propose strategies.
  - The Hungarian Ecoregion Office (HERO), established within the City Planning Institute (VATI) and funded by the MoE in order to gradually assume responsibility of the project from the PCO and complete the REAP.
  - The Regional Objective Work Groups (ROWGs) with the task of working on specific parts of the plan as air and water pollution, sewage, soil, legislation and education.

The Project Coordination Office carried out a media campaign, encouraging RSD Ecoregion communities to become involved in the project.

**Phase 2 (February-November 1994): Collecting of environmental information.**

Information and data on the condition of the environment in the region was collected by the PCO from:

- relevant ministries (Environment, Industry, Interior and Water Management);
- respective agencies for particular issues (e.g. the National Health Institute);
- available studies;
- mayors and municipal officers;
- results of a questionnaire and workshops.

All contacted institutions were very open to provide available data based on studies or their own expertise. Information related to the condition of the environment in the region was gathered; to be used as a source of information by local people. No further analyses or tests related to the environment were conducted, despite the need in some cases: analysis of the quantity and quality of river-base sedimentation. Regular dredging work ceased in 1990 due to lack of money. Evaluation of environmental data was assisted by a Canadian expert in some cases; summarized in an Environmental Situation Analysis document which was used as background information for local community activities and regional plan workshops. The document included an economic, social, and environmental overview, analyses of land use, environmentally sensitive areas, flood plains, hydrology, vegetation, wildlife, and air quality surveys. The document also helped identify information gaps and recommended further studies and data collection. Subsequently, a Background Report was prepared summarizing all information related to the already begun local strategic planning and the answers of the questionnaire.

**Phase 3 (April 94-December 95): Development of options to involve RSD communities and development local strategies.**

Local environmental action plans (LEAPs) for interested municipalities were developed. The opinion of residents in other communities was solicited through questionnaires.
1. Developing local plans.

Developing local strategic plans is a part of the Regional Environmental Plan development. These LEAPs were based on the results of workshops involving municipalities. The workshops focused on environmental assets and concerns facing their community in particular, and the RSD Ecoregion generally.

The workshops focused on ideas, which were then grouped according to subject: natural, economic and social environment; geographical location; vision for the year 2000; vision for the year 2025; goals and objectives.

Participants then prioritized ideas on the basis of importance, time schedule, logical order of action, or other participants’ criteria.

The whole process was facilitated by the PCO, the HERO planners, and occasionally by Canadian guest facilitators. A Community Strategic Planning Manual was prepared by the CUI to assist communities. The Municipal Boards developed a plan, agreeing to involve local residents and provide necessary labor, and finances. The process was launched by the establishment of strategic planning committees comprising volunteers, municipal officers, entrepreneurs, doctors and local celebrities. Membership was not limited.

All interested communities—seven of the 25 RSD communities—participated in and completed their LEAPs. Municipalities include the Csepel District of Budapest, Szigetbecse, Szigethalom, Dömösöd, Áporka, Dunavarsány, and Dunaharaszti. Only environmental issues would be considered in the RSD Environmental Regional Plan.

Regional planning was always in sight as a final goal: local plans were developed to provide information related to public opinion. Local plans were approved by respective Municipal Boards.

The first LEAP, developed by municipality of Szigetbecse, served as a model for the others. This plan was not limited to environmental concerns but included other sectors, such as the economy. The LEAP plan contains opinions of citizens structured according to the regional plan recognition and ranking of local values, short- and long-term visions, identification of problems, goals and objectives, action plan to reach the objectives. Local problems were ranked accordingly:

1. High sedimentation, eutrophisation and overgrown vegetation in back-water
2. Inappropriate educational system (vocational training does fulfill local demand – the 10-year education system requested by law cannot be provided);
3. Lack of financial sources;
4. Low rate of employment;
5. Pollution, including litter; neglected vegetation; pollution of drinking water; (essentially septic tank leaks; absence of sewage treatment plant; absence of sewers resulting in street floods;
6. Low security of private property;
7. A landfill almost filled to capacity;
8. Limited environmental awareness;
9. Increased crime.

Szigetbecse’s LEAP included an action plan; timetable; budget; partners involved and assigned personnel responsible for coordination. The LEAP was approved by the Board of Representatives; all inhabitants, as well as weekend-dwellers.

2. Public survey

A survey of 1500 questionnaires was circulated. The overall rate of return was very low - only six percent - since the method was quite new and generally the public mistrusts such techniques. Results were summarized in the Background Report that served partly as a document for further public relations. Results were also combined with the Environmental Situation Analysis results, and results of the Regional Planning Workshop that determined environmental regional priorities.

3. Local strategies

Demonstration projects, based upon local strategic plans and results of the workshops, were developed and implemented within the RSD Ecoregion during the project to encourage public involvement at the local- and regional-level. Projects included: tree planting, garbage clean-up along the river, environmental education programs for school children.

The main conclusions of the local workshops underlying development of the regional plan were summarized as:

- cooperation of municipalities is a crucial factor;
- the RSD Ecoregion and Association of Municipalities are accepted as an organizational framework for planning;
- public participation is important in the planning process;
- the water-quality of RSD is a determining factor;
- each settlement recognized its responsibility to solve sewage problems (with the exception of the Budapest Sewage Treatment Plant, a government responsibility);
- the solid and liquid waste problem must be solved;
- a reduction in unemployment is fundamental if the region is to develop.

Phase 4 (December 1994-December 1995): Environmental Regional Plan (REAP) development

1. Commence the REAP (vision definition)

A workshop organized by the AC determined environmental assets, concerns, and vision for the RSD Ecoregion, and prioritized concerns to identify critical issues. A draft list of goals and objectives for the region was created.

2. Development of the REAP structure (clarify goals and objectives related to critical issues)

Based on the information contained in this Background Report, a draft of the REAP structure was created by the AC, and submitted to all mayors for comment at the final conference. ROWGs were created to analyze each objective, and develop action plans for regional goals and objectives within their respective territories. These were, in turn, incorporated into the plan.

This phase resulted in a draft of the REAP by VATI planners titled “RSD Ecoregion: Strategic Principals and Regional Development Concepts 1995.” It presents a regional strategic concept with the involvement of RSD residents. It provides a vision of the region for 2005, identifies the main environmental problems threatening both human health, ecosystems and residents’ welfare, identifies the duties of municipalities and expectations from the capital, and proposes ways of managing some identified problems (Protecting the Natural Environment, Managing Agriculture and Natural Resources, Managing Human Settlements, and Infrastructure and Community Services). The main environmental problems were identified as the following:
1. Increasingly deteriorating water quality of RSD and the connected gravel quarries;
2. Proximity of large, air polluting factories, mainly the Százhalombatta Power Plant and Oil Refinery;
3. Global threat: threatened biodiversity;
4. Arable land (careless agriculture causing soil damage; soil contamination by the Soviet and Hungarian air bases).

These objectives were established to address the top priority problem:
• Establishment of environmentally-friendly sewage system;
• Analyzing the sedimentation;
• Sustainable water management;
• Analyzing the effect of the Greater-Danube on RSD Region;
• Biological cleaning of sewage;
• Transfer of sewage output of South-Pest Sewage Treatment Plant to the Greater-Danube;
• Directing the sewage output of Ferencváros Pump Station into the water current of the Great-Danube.

This draft paper is a supporting conceptual document for the development of the real REAP for the RSD. All chapters end with action proposals. Financial evaluation and analyses of recommended strategies were not included: the implementation plan must be financed by local and national resources.

Detailed REAP for the region could not be prepared because of time restraints.

3. Seminar on financing for local strategies
   At the end of the project, a specialized workshop on project implementation financing, attended mainly by mayors and municipal officials from concerned municipalities, was held. Financial experts presented different strategies for the financing of environmental measures.

Conclusions

ACHIEVEMENTS

Governmental support
The Hungarian Ministry of the Environment, City of Budapest and County of Pest provided funding for the establishment and operation of the Hungarian Ecoregion Office to ensure the evolution and continuation of the regional strategic planning process (funding of data collection, documentation preparation, studies, office costs). Formal support of state representatives was important, especially at the commencement of the project.

Municipal cooperation
Nineteen mayors of RSD signed a declaration for the establishment of an Association of Municipalities to coordinate the Ecoregion process. The Association is now actively working together to resolve common problems within the RSD Ecoregion.

Public awareness
Community awareness and involvement has been significantly raised during the project development. Citizens have become convinced of the usefulness of environmental strategic planning for their communities and recognize the importance of individual responsibility.

Information base
A comprehensive information base on environmental issues in the RSD Ecoregion was established and can be used in the future. It is available in the PCO in Budapest.

WEAKNESSES

Time schedule
A major problem for the project was time management: the regional planning part could have begun earlier within the project frame, allowing more LEAPs to be calculated and further development of the REAP.

Mistakes were essentially due to inexperience when dealing with so many interest groups and a complicated political setting.

Residents’ approach
Less inhabitants than expected took part in the project; more people were expected to work on committees and attend workshops. The NGO community was not sufficiently involved in the process.

Foreign input
Foreign aid, in the form of know-how and financial support was necessary. There was no experience with this kind of environmental planning (public participation, setting priorities, etc.) in the region in the past.

Implementation
The project did not result in clear conclusions with regard to the completion of the REAP and its implementation; the Association of Csepel Island Municipalities will have to take over the program and decide on future steps.
SUSTAINABLE COMMUNITIES PROGRAM IN MOSONMAGYAROVAR AND SATORALJAUJHELY

Basic Information

ARRANGEMENT

For the Hungarian project the “Comparative Risk Methodology,” developed by the US Environmental Protection Agency in order to set environmental priorities, has been adapted according to local knowledge and opinion. When setting priorities, economical changes, local values, history, and culture are taken into account. This method helps merge the views of both experts and the public. It was used to develop local environmental action plans in two cities: Mosonmagyarovar and Satoraljaujhely. They were selected according to these criteria:

- committed local government and citizens to undertake the project;
- existence of environmental problems with potential to be solved at the local community level;
- environmental problems commonly existing in other cities of comparable size;
- presence of local NGO(s) or public groups interested in local environmental protection;
- partisan influences within the local government should be well balanced.

This 18-month project was initiated by the Institute for Sustainable Communities (ISC) in Vermont, USA; and the Independent Ecological Center (IEC) in Budapest served as an in-country project coordinator.

PROJECT GOALS AND OBJECTIVES:

ISC launched the Community Action Project in order to demonstrate community-based, environmental decision-making and action in Hungary, and to demonstrate the application of comparative risk assessment methodology as a basis for prioritizing environmental protection at municipal level. Objectives of the project were the following:

- develop local environmental action plans which are based on wide consensus;
- adapt the risk assessment process to the political, economic and social realities of CEE countries;
- increase replicability of the methodology by developing training materials tested and proved in Hungary;
- improve skills of Hungarian, government officials, social and technical professionals, NGOs, and citizens in techniques of collaborative decisionmaking, environmental analysis, conflict resolution, public participation, strategic planning and program implementation;
- continue to attract national attention on sustainable communities through the national and professional media;
- draw the attention of the national government to community sustainable development projects.

A. Local Environmental Action Plan for Mosonmagyarovar.

MUNICIPAL PROFILE

Mosonmagyarovar lies in the northwest corner of Hungary, close to the Austrian-Slovak border. The city is on the main highway between Budapest and Vienna, and consequently suffers from traffic congestion and air pollution from automobile emissions. The city has 30,000 inhabitants.

The town economy is primarily industrial and agricultural; tourism is increasing, due to mineral baths and proximity to an important wildlife area. There is a coal-fired power plant, six manufacturing plants, and a regional landfill.

The protected natural area “Szigetköz” lies nearby (between the Moson Channel and the Danube). The Szigetköz is characterized by many small stream channels, islands and wetlands that are home to numerous species, wild plants and animals, including migratory birds, wild boar and various species of deer. This area has been affected by the construction of the Gabčíkovo Hydroelectric Project on the Danube, and is in danger of losing its precious water supply when the flow of the Danube is diverted. Under the Szigetköz is “the largest aquifer in Central Europe”, also endangered by the dam project.

Many organizations offered to join the program; a strong and well-known local environmental NGO helped with the project coordination. This organization—Mosonmagyarovar Environmental Association—worked on different programs such as an environmental education program in local elementary schools, nature protection program, river clean up program, etc. They worked with many volunteers. The most famous and important action was a successful protest against the import of Austrian waste. Because the Agricultural University is in Mosonmagyarovar, several researchers work in this NGO. An independent newspaper is published by the Association, which is a useful tool for information dissemination and public involvement.

LEAP Development

PROJECT PHASES

The project was carried out in four phases:

Phase 1 (March-April 1992): Project organization and initial training

Representatives of the ISC, IEC and the local municipalities signed the agreements in March 1992. This contract described clearly the role and responsibility of the partners:

- local governments will officially recognize and support the project;
- citizen committees will accomplish the work on environmental problems evaluation and strategies selection;
- the IEC will provide organizational and technical assistance to the project through a project director;
- local residents will be consulted at every phase of the process.

ISC provided financial assistance to develop environmental action plans, trainers, and a study tour. The local governments were to manage the program, provide office space and a local coordinator. The local governments also provided additional financial assistance. IEC coordinated the project, and created publicity.
Two committees, composed of 30-40 volunteers—approved by mayors—with a broad range of interests, were at the core of the project. Commitment to serve voluntarily on the committees was set at 18 months.

The Policy Committee (PC) representing the community residents served as a link between the project and the public. Membership in the PC reflected a wide range of interests: citizens, farmers, industry, managers, workers, parents, teachers, doctors, representatives of NGOs, and other interest groups. An effort was made to include residents who did not identify themselves as environmentalists; experienced public activists. The principal role of the Policy Committees was to manage effective public participation and pass information gathered from the public; representing a non-technical viewpoint on environmental problems. Members were trained in community organization, public participation techniques, meeting facilitation and leadership development.

The Technical Committee (TC) included local experts in environmental health, public health, natural sciences, economics, pollution control and related fields. They collected and analyzed technical and scientific data for the Policy Committee and collaborated on the problem ranking.

Committee members learned skills during the course of the project in numerous areas, including:
- group decisionmaking;
- public participation techniques;
- comparative risk analysis;
- workplan preparation and development;
- project implementation, and financing strategies.

The initial training introduced participants to the goals of the projects and comparative risk methodology. Emphasis was put on collaboration of the participants, and the adaptation of the project to the needs and conditions of communities.

Committee members, representatives of the Ministry for the Environment, environmental NGOs, other service organizations and neighboring towns and villages participated.

**Phase 2 (April-December 1992): Identification of local environmental problems and their causes, and priority-setting.**

This was carried out in two steps:

1. **Local environmental problems identification**

   Committees created the preliminary environmental problem lists by using brain storming techniques; the PC collected information from the public through surveys.

   Several obstacles emerged during data collection:
   - lack of data: there is no central environmental data system in Hungary; agencies have insufficient data related to emissions - most figures are provided by polluters themselves.
   - time factor: the summer period is inappropriate for data collection (both committee members and survey respondents are on vacation for long periods).

   The major environmental problems primarily identified by the TC were air pollution from the traffic (the through traffic Vienna-Budapest crosses the city), red sludge from the Alumina factory, solid waste, and drinking water pollution.

   The PC conducted a public survey based on information disseminated by the regional newspaper, and distributed questionnaires (schoolchildren were requested to involve their parents). The merged list included nine problems: Air pollution; communal waste; noise; condition of city parks; pollution of surface waters; insufficient green areas; radioactive infection; the general traffic system. A feeling of “helplessness” was also put on the list as an aggregated special problem, indicating a lack of adequate information and inability to problem solve, especially emergency cases.

   Both committees visited together the problem areas (the sewage farm, the red sludge tailings, the local dumping ground and the Lajta river) and the TC presented the results.

2. **Priority setting**

   Comparative risk assessment methodology has been used by the USEPA at the national level in the United States. The system can also be applied to smaller cities (20-50 thousand inhabitants). These types of cities have “one society,” where people know each other; local experts can be found, and local action can be realistic.

   Since the method is based on public participation, problems should be explained in a clear way so that people with no scientific background can understand why a certain problem is dangerous and to what extent the public is affected, etc.

   The priorities set up in the risk analyses are then integrated with other non-risk factors (ability of the municipality to solve a problem, legal requirements, financial resources) and public preferences to develop an action plan addressing high-risk problem areas. Risks are compared according to the importance to the community.

   When reliable data is missing, simple methods can be used (watching trees shedding their leaves earlier, or leaves changing their color in the growth season). Risks associated with each problems area are analyzed (based on data or best estimates). Clearly stated assumptions, data gaps, and limitations are an important part of this process.

   Identified problems were broken down according to their relative risks of affecting three categories: human health, ecosystems, and quality of life.

   - The human health risk assessment estimated the magnitude of health risk.
   - Ecological risk assessment analyzed non-chemical or physical impacts on ecosystems.
   - The quality of life analysis was composed of two parts: social impact (negative impacts to peoples’ sense of community, the loss of places of natural beauty, the loss of cultural values due the disturbance of traditional practices or sacred places, and loss of concern with the well-being of future generations, inequity of impact on different groups in society), and economic damage (monetary losses resulting from diminished recreational opportunities, a drop in tourism due to environmental degradation or the loss of wildlife, damage to crops or forest yields, impaired productivity and hospitalization costs of people affected by pollution).

   The ecological component of the process was conceptually similar to the human health risk methodology, but differed in two important ways. First, ecological risk assessment evaluated the negative impact on a myriad of species’ interactions and processes instead of assessing impacts on a single species only. Second, it evaluated non-chemical stresses.

   Mosonmagyaróvar committees faced serious difficulties with insufficient data collection. Following a public hearing and with the help of the ISC and IEC, the following ranking was created:

1. Air pollution from traffic
2. Water pollution
3. Industrial water pollution
4. Water pollution from communal sewage
5. Red sludge
6. Dust
7. Import surface water pollution
8. Galvanic sludge
9. Oil holders and sewage sludge water

**Phase 3 (December 1992-May 1993): Identification of various strategies for actions and setting up the entire environmental action plan.**

After the ranking sessions, the committees received training in developing an Environmental Action Plan as a strategy to address the top priority problems. The first step was to design goals and strategies. First, committee members divided each problem into sub-problems, formulating them as goals. Possible strategies were examined under these criteria:

- Cost Effectiveness (relative costs)
- Total costs (total capital and operating costs associated with the project over its lifetime)
- Economic benefits (economic savings and other benefits from the project)
- Effectiveness (reduction of risk to human health, ecosystems, and quality of life)
- Flexibility (possibility to accommodate changes in demographic, economic, environmental or legal circumstances)
- Implementation time
- Political/public acceptability (support from the public and/or municipal council)
- Technical Feasibility

The development of the Action Plans was helped by a study tour to Vermont: the ISC provided examples of applicable solutions to each community’s most serious environmental problem. The seminar contributed towards the further development of environmental action plans by examining the main topics: Solid waste management; (waste reduction and recycling); public participation and education; energy conservation; Burlington’s city government structure; Vermont’s land use permitting process. These were the objectives:

- explore solutions to specific, top priority environmental problems
- provide examples of grass-roots efforts that rely on volunteers and limited funds
- meet with people engaged in similar work: highlight the necessity of pursuing long term goals, despite short term obstacles
- a vision of results of local environmental planning.


The air pollution problem, which was the first priority, was too great and the committees realized that the problem was not manageable at local level, therefore it was not included in the Implementation Plan. Reports with data on identified problems prepared last summer did not provide enough information, therefore committees continued the data collection process. Because of time constraints, the committees and local administration had little opportunity to cooperate with each other, which made work much less efficient.

The water quality protection strategy included an improvement of its quality, cleaning up of the Lajta riverbed, creation of a pedestrian zone, and development of an educational program for elementary schools related to the project. Taking all aspects—possibilities of municipality, costs, etc.—into account, committees decided to narrow the Implementation Plan down and spend grant money on water quality protection. The Implementation Plan was calculated to clean up the Lajta river bed and create a promenade along the riverside. The chief town architect provided assistance by integrating the Implementation Plan with the city Master Plan. The Master Plan is a basic comprehensive plan for city development covering all important areas; it includes a section related to environmental protection.

**LEAP Implementation**

Implementation of the remedy program for the Lajta river started in Fall 1993. The work included the following steps: dredging the river bed, cleaning the river bed and the river side, weeding of the river side, creation of a pedestrian zone on the river bank with benches, planting trees, and installing new street lights. In addition to this, an effort was made to explore illegal effluents to the river.

The committees published the abridged version of the Mosonmagyarovar Environmental Action Plan in comprehensible format for the public, with a summary of the whole planning process and all its problems.

Following the completion of the official part of the project, Mosonmagyarovar Environmental Protection Association organized the 1993 city-wide River Clean-up and Awareness Day, which has now become an annual event. On this day, litter is removed from the two rivers flowing through the city, experts monitor the water quality and publish results. Many public outreach activities such as publishing a civic newsletter, organizing fora at the town hall, excursions and River Days were undertaken during the project.

The implementation of the second priority problem has not yet started.

**B. Local Environmental Action Plan for Satoraljaujhely**

**Municipal Profile**

Satoraljaujhely is a city of 21 thousand inhabitants on the Slovakian border in the north-eastern part of Hungary. It has a special position among the cities in Hungary: Before the Trianon Agreement, the city was an economic, transport and cultural center of north-eastern part of Hungary (after World War I, half of the town became part of Czechoslovakia). From an environmental viewpoint, there are more advantages: the air and waters are relatively clean, forests largely intact, and the Baroque and traditional architecture was not replaced by concrete blocks. Until now, the city’s environment has not suffered irreparable damage.

The major feature of the local economy is agriculture - Satoraljaujhely is in the famous Tokaji winemaking region of approximately 18,000 acres of vineyards, meat and dairy production. There is also a machine factory, a furniture plant, a textile plant and a tobacco plant. The regional hospital is situated there as well. Environmental management is under the auspices of the Technical Department of the municipality (as a result of the project, local government employed an environmental engineer in charge of environmental management).
LEAP DEVELOPMENT

The same ISC methodology for the LEAP development was used in Satoraljaujhely as in Mosonmagyarovar: changes can be found in the results of particular phases and steps. Therefore, only those changes are referred to here.

Phase 1 (March-April 1992): Project organization and initial training

This phase had the same features as in Mosonmagyarovar.


Phase 2 was carried out in two steps:

1. Local environmental problems identification

The preliminary list of environmental problems was established according to the results of the opinion poll. The list contained these items: Solid waste; water pollution (including the lack of sewage system); air pollution; deterioration of wildlife and forests; radiation; rays; radon; traffic; organic waste from hospitals; galvanic sludge; agricultural chemicals; paint remains; noise; smoking in public areas;

2. Priority setting

The TC organized a field trip to introduce problems to the public: participants were given presentations by local experts (based on preliminary reports) on every problem area. Prior to this, the TC answered telephone questions on a local TV program. Public interest focused mainly on the issues of solid waste, galvanic sludge and water pollution. Public hearings were organized to consult citizens regarding the ranking. The final ranking was as follows:

1. Water pollution, solid waste
2. Air pollution from heating, air pollution from traffic
3. Galvanic sludge
4. Noise

Phase 3 (December 1992-March 1993): Identification of various strategies for actions and setting up the entire environmental action plan.

This phase had the same features as in Mosonmagyarovar.


The seminar delegation worked out a preliminary plan for a waste recycling program that was submitted to committees. During the work on the final recycling plan, the manager of the Satoraljaujhely Waste Management Ltd. was invited to cooperate. The Town Council appointed the secretary of the TC as the environmental manager of the town to manage the program implementation.

The Implementation Plan was a detailed part of the Action Plan focusing on a certain problem area.

This Implementation Plan for recycling defined five garbage categories that should be collected separately: glass, plastic, paper, aluminium and organic waste. The collected garbage would be transported by a special collection truck. A combined pre and post separation of garbage with important public participation would be used (citizens would pre-sort waste into given categories).

LEAP IMPLEMENTATION

The committees decided to launch the program in January 1994 in several waves — in different parts of the city — in order that practical experience gained in the starting phase can be used in subsequent phases. The program started in a “fashionable” part of Satoraljaujhely with five hundred family houses: this phase was covered by the ISC grant. The Town Council undertook the liability to gain necessary funds to promote the project in the town; the Parliamentary Environmental Committee and the Ministry of Environment were asked for their financial and professional support. As a follow-up of this project, the local government wants to share gained experience through conferences and workshops to help other cities in Hungary launch similar projects.

The committees published the abridged version of the Satoraljaujhely Environmental Action Plan—in more “ accessible” language for the public—with a summary of the whole planning process and all its problems.

After the “solid waste problem” project was tackled (the recycling project has continued since then), another top priority problem was addressed: water pollution. The Slovak-Hungarian Water Protection Conference convened in Satoraljaujhely in the summer of 1994 to begin the international cooperation needed for the effective solution of this transboundary problem. Participants calculated the Action Plan for the water pollution problem (this has not yet been implemented).

Public outreach activities included extensive use of local media, fora at the town hall, excursions, outreach to schools (Earth Day drawing competition) and others.

Conclusions

ACHIEVEMENTS

Cooperation

The program was conducted under the auspices of municipality authorities with official recognition and support, and run by citizen volunteers. Public participation was high during the project in both towns; in Satoraljaujhely, a strong environmental NGO was established by the committee members in 1993.

Education

Training played an important role in the project since the concept of risk assessment and some techniques of public participation at local level were unknown. Training for committee members was held prior to each important phase of the project.

Training

After completing the follow-up of the program as well, a training program based on the above experience was developed. It includes an adapted (shortened) methodology focusing on the implementation phase as two-year programs are very difficult to manage in Hungary.

Replication

The IEC, with renewed funds, replicated the LEAP program in two subsequent towns, Baja and Szentendre. This time the original LEAP project was further adapted to the CEE conditions. As an introduction, group cohesion and communication skills were developed and a more intensive search for quality data was applied. In the case of a lack of data, the program relied on the communities’ judgement. The program focused more heavily on the “relationship of ecology and economy.”
WEAKNESSES

Skills
Problems arose particularly due to local authorities’ and interest groups’ inexperience with the decisionmaking process and mutual cooperation.

Involvement of businesses
Few local business representatives participated in the program: research indicates the reluctance to join the program was due to being identified as the “polluters.”

OBSTACLES

Information
Precise data was often replaced by approximations, thus jeopardizing the whole process several times. Some stages selected in the original methodology — problem identification - setting priorities and analyzing data -should be simplified and based on public opinion, focusing on the implementation of the process.
Introduction

BACKGROUND

Experience to date demonstrates significant interest on the part of local government in solving typical environmental protection problems such as sewage treatment or communal waste dumping. However, minimal interest and a considerable lack of experience in the practical application of the concept of sustainable development at local level can be seen. Only a handful of gminas (municipalities) have taken into account the recommendations of Agenda 21—Program of Action for Sustainable Development adopted at the UN Conference on Environment and Development in 1992.

The national government expressed its concern regarding the environment in the National Environmental Policy document, approved by Parliament in 1991 which stressed, among others, principles of sustainable development. Chapters of the national policy devoted to the role and tasks of local government in implementation have defined necessary action as:

- further extension of local governmental power pertaining to the use of the environment and environmental projects within a municipality; extension of mechanisms for municipalities to collect environmental penalties;
- increasing the resources allocated by the National Fund to support agreements between provincial governors, associations of local government and regional interest groups;
- opening special credit lines with preferential loans from the National Fund, targeting small, private operators in the municipal services sector;
- establishment of either departments or posts for planning and coordinating environmental projects including municipal environmental fund management, in all municipalities.

LEAPs for the towns of Radom and Elk have been developed within the national framework as pilot projects of the National Environmental Action Program. The main idea of this pilot project was to select two cities of different sizes - introduce and test the foreign methodology in one, adapt the methodology to local conditions, and subsequently implement it in the other. The city of Radom, with a population of 230,000 was selected as the largest city where the coordination of such a project is still feasible, while Elk, with a population of 55,000 serves as a smaller test site.

The pilot project in Elk differs from that of Radom in concept: the action plan in Elk is being developed with an underlying vision of sustainable development; it does not deal exclusively with environmental protection. This means that in executing this venture in Elk, environmental protection action must be integrated with other municipal development activities and programs (economic). The focus is on strategies, both to protect the environment and stimulate the local economy.

Factors determining the selection of Elk and Radom included the presence of typical environmental problems, interest and support of the local authorities and other organizations, and the fact that both cities had not before developed comprehensive municipal environmental plans. The Institute for Sustainable Development (ISD) in Warsaw had already cooperated with Elk over a period of several years before this project started.

The project has been executed jointly by the Institute for Sustainable Communities (ISC) in Vermont, USA, supported by the US Environmental Protection Agency (USEPA), and ISD. From its very inception, ISD devoted a great deal of attention to the concept of sustainable development at the local level, as well as public participation in the decision-making process. The experience of ISC and the interests of ISD resulted in the creation of this joint venture. This is considered both an important element in the implementation of recommendations of the Lucerne Conference on the Environment, as well as an important aspect of Polish–American cooperation in environmental protection.

Completion is expected around the end of 1996.

LEGAL FRAMEWORK

Legislation passed by Parliament in 1990 re-established local government in Poland. Changes in the constitution state that municipalities are subject to democratic forms of management. Government at the regional level, on the other hand, was abolished. The Local Self-Government Act extended the jurisdiction of Local Councils by obligatory functions and tasks delegated by the governmental administration. Communal waste disposal, sewage disposal systems and water supplies are basic services provided by municipality - environmental protection belongs to a delegated responsibility. The local government system still faces some important problems, however, particularly that the state administration transfers duties to municipalities without proper financial support.

These legislative changes created the setting necessary to launch local activities such as this pilot project. The ongoing debate regarding the introduction of a second tier of self-government may accelerate the process of establishing local sustainable communities. A major barrier to their implementation, however, can be the replication of a typical model suitable only for a western economy, based on the concept of economic growth.

Basic Information

GOALS OF THE PROJECT

The overall goal of this project is to test techniques and procedures of environmental decisionmaking at the local level. The second goal is to share experience gained in Radom and Elk with other municipalities in Poland, developing environmental management techniques, as well as:

- to rank environmental problems based upon their relative risks to human health, ecological systems, and qual-
A. Local Environmental Action Plan for Radom

Municipal Profile

Radom is a voivodeship (provincial) capital; it is industrial in character. Its population is in excess of 230,000. The town’s administrative borders encompass an area of approximately 112 square kilometers.

The most developed, economic fields in Radom are the machine and metallurgical industries, telecommunications, the chemical industry, food processing, and the timber, garments, leathers and tanning, tobacco, and construction industries. As a result, the most polluting industrial facilities in the town include the combined electricity generating and heating plants, plants manufacturing sewing machines and typewriters, switch manufacturing plant, leathers and tanning facilities, the paint manufacturing factory, the fire-resistant materials factory, and the tobacco products plant. Additional problems stem from the municipal dump and the sewage treatment plant.

Areas of greatest natural value are the six municipal parks, three historical parks, a small wetland area (the breeding grounds of certain species of birds), and a forest.

Many environmental nongovernmental organizations (NGOs) are active, including the Center for Ecological Education, the Polish Ecological Club, the “Wole Byc” (“Prefer to Be”) Youth Group, the Nature Protection League, the “Oddychanie” (“Breathing”) Foundation, and the Teachers’ Environmental Association. Environmental awareness among Radom residents is high, a fact confirmed by a questionnaire on environmental pollution, conducted during the project. The poll demonstrated that the residents of Radom know the environmental problems facing their town, and with the appropriate education and assistance, are capable of becoming involved in their solutions. Environmental NGOs receive substantial material and financial support from the local government.

The municipal government consists of the Council and the Board - the executive organ. The Board encompasses many different departments, including health, education, social welfare, promotion and foreign cooperation. The Department of Environmental Protection and Agriculture is responsible for environmental problems and can provide monitoring and supervision, as well as the appropriate coordination of related ventures. The department employs 15 persons in three sections - municipal parks (vegetation and agriculture), water and sewage treatment, and the Environmental Monitoring Task Force (noise and vibration, environmentally polluting emissions, and environmental monitoring). The level of pro-environmental investment in the town exceeds five percent of the municipal budget. Funds available from the municipal Environmental Protection Fund, established in 1993, amount to US$ 160,000 annually.

Several projects aimed at improving the environment in the town are currently underway. The most important ones include a solution to communal waste treatment, methods of supplying the town water system up to the year 2010 on the basis of deep wells, communal sewage and liquid waste treatment, the clean production program, and the construction of a sanitary and storm sewage network.

LEAP Development

Project Phases

The project started in July 1994 and is still underway. Completion is scheduled for the end of 1996.

Phase 1 (July-September 1994): Initial training and drawing of vision and goals.
Initial training focused on predictions for the municipality, goals to be achieved in the next 10-20 years, it also identified and characterized environmental problems, as well as the general, preliminary assumptions pertaining to comparative risk analysis. The creation of a vision was a major point in program execution. Training topics were intended to activate conference participants and to familiarize them with the character and working methods of the Program Committee, formed at the conclusion of the conference.

During one of the first meetings of the newly established PC, training was conducted related to the structure of meetings, team work, generating discussions, and the principles of communication. Sub-committees were created within the framework of the committee to deal with particular environmental problems.

Besides issues related to the local environment, issues considered important for the town’s economic development, the state of technical infrastructure, education, health care, and living standards were discussed and a comprehensive action plan for the town’s sustainable development was drawn up.

**Phase 2 (October-December 1994): Identification of local environmental problems and their causes.**

The process of identifying local environmental problems was coupled with the preparation of a list of problems which was the subject of in-depth analysis in further phases of the program, ultimately providing a list of priorities. This process was broken down into several steps:

1. **The preliminary identification of environmental problems**
   
   For preliminary identification of environmental problems, the “brainstorming” method was used. Thus an initial draft outlining environmental problems was drawn up, with basic explanations as to causes for concern.

2. **Initial verification of the list of environmental problems by the PC, supplemented with other items by the committee.**

   This phase mainly attempted to eliminate those problems from the list which, by their nature, were not environmental problems, but rather matters of environmental management. Examples include insufficient legal regulation, low environmental awareness, or insufficient financial resources.

3. **A subsequent verification of the list of identified local environmental problems by the PC.**

   During the verification of the list of environmental problems, attention was paid to several matters which may have an impact on future phases of project implementation, such as designating priorities on the basis of a comparative risk analysis. Subsequently, a list of 17 environmental problems was submitted for review by Radom residents, with a widely-distributed sociological questionnaire.

**Phase 3 (January-September 1995): Setting priorities among identified problems.**

Limited financial resources available for environmental protection signify the need to develop a ranking system according to priority, providing solutions for the most pressing and urgent issues.

Experience from the United States and from Western European countries shows that designated environmental priorities rarely reflect the actual threat posed by environmental problems. Decisionmakers in this field often react more to pressure from the community than as a result of objective assessment.

Such an approach can lead to delays in solving problems of which society is not fully aware, but which carry major dangers. Methods based on comparative risk analysis were therefore used. Comparative risk analysis methodology provides general answers to such questions as: Which environmental problems (bearing in mind the present state of knowledge and available data) create the greatest threat to the health of a given community, its natural environment, economy and the quality of life of its inhabitants. Therefore, which problems should be considered priorities? The comparative risk analysis, though, founded to a great extent on results of scientific analysis, is imprecise and is based only on available data. An important feature of such an analysis is that all assumptions are explicitly stated and data limitations openly acknowledged. Another important characteristic is the weight applied to the results of discussions and debates on risk assessment between those directly interested. A significant aspect of the comparative risk analysis is the consideration of public opinion. For this reason the PCs stressed from the beginning the importance of keeping the community informed of the progress of work.

The methodology of comparative risk analysis has not been conducted before by local people in Poland. For this reason, several training sessions were necessary.

Identification and general characteristics of local environmental problems alone do not provide the basis for a risk analysis - data must be collected in order to conduct such an analysis. The character and scope of this data stems directly from the methods used in health, environmental, economic, and quality of life risk analyzes.

Specifically, collected information and data pertained to: quantities of emitted pollutants, their sources, range, numbers of persons affected by the given pollutants (measured as the number of persons living in a given area of the town or bathing in a polluted lake, for example); the scale of the problem as it increases over the years; the natural environment subject to a given pollutant; the opinions of committee members related to the economic impact of the environmental problems of the town; residents’ opinions on the decrease in the quality of life as a result of environmental pollution, etc.

**I. Health risk assessment**

A health risk analysis was conducted by a team of experts from the Institute of Occupational Medicine of Lodz. This team assessed health risks linked to specific environmental problems on the basis of data collected by the PCs.

The health risk analysis addressed problems of air pollution, water pollution, noise, waste and disasters. Problems relating to the depletion of aquifer and the disappearance of surface streams were not included in the analysis due to a lack of proven cause–and–effect links between the existence of this environmental problem and the state of the town’s inhabitants health.

**II. Ecological risk assessment**

Ecological risk analysis was the domain of a separate team of experts. In order to define factors which are detrimental to the natural environment, it was necessary to define such elements as eco–systems or populations which are particularly sensitive, rare or threatened by negative factors. It was also necessary to assume a certain distribution of pollution over the analyzed area. The analyzed area was not restricted to the town limits, but encompassed some land beyond it.

The ecological risk analysis did not include threats related to noise and vibration, nor those tied with the quality of drinking water.
III. Economic and quality of life risk assessment

Economic risk and the decrease in the quality of life were assessed jointly. The PC conducted the analysis in these fields. Such factors as aesthetic and environmental values, psychological comfort, recreational potential, the good of future generations, a sense of justice, community values, and economic values were all considered.

The results of the risk analyses were initially to be discussed in the wider context of particular environmental problems in order to rank the problems according to priority. However, it was necessary to prepare synthetic reports containing information on the results of analyses, as well as other information that could influence the course of discussions and subsequently ranking results (scale of threats, reversibility, uncertainty).

Ranking method

Ranking of environmental problems by the PC took place over a period of two-days. The final ranking considered not only the threat which the given environmental problem may pose to human health, ecosystems, the economy, and the quality of life, but also such factors as social preference, the jurisdiction of local government, legal requirements, etc. Like all plenary sessions of the PC, the ranking session was open to the public and took place over a weekend to ensure the widest possible public participation. Representatives of district and local governments, MoE, ISD, USEPA, ISC and the USAID were invited to attend.

During the first day of the session, the previously identified and analyzed local environmental problems were arranged according to the risk they posed. On the second day, participants discussed the weight of environmental problems according to criteria other than risk. The committee took into account residents’ opinion of the town’s environmental problems, (based on a sociological survey), as well as the local government’s ability to find solutions. The session resulted in the compilation of a list of local environmental problems according to urgency, as seen by the PC: all problems categorized as high risk on the first day were given priority status. The problems of the aquifer depletion and disappearance of surface flows were identified as the top priority, with air pollution from transport and industrial sources as the second priority. In the Summary, the PC ranked the problems as:

High-risk problems:
- Depletion of deep water aquifer for drinking water;
- Air pollution from transport and industrial sources;
- Surface water pollution and the sewage economy;
- Solid communal, industrial, and hazardous waste — the Wincentow area; and
- The condition of green areas.

Medium-risk problems:
- Solid communal, industrial, and hazardous waste — closed and illegal dumps;
- Solid communal, industrial, and hazardous waste — the Nowa Wola Golebiowska area;
- Noise and vibration.

Low-risk problems:
- Exceptional dangers resulting from catastrophes;
- Incineration of hospital waste; and
- The quality of drinking water from deep wells and ground water.

Radom completed the first draft of the LEAP. The City Council is expected to approve the LEAP by September 1996. The LEAP focuses on the top five priority problem areas. Each chapter describes the problem, identifies goals and preferred strategies for achieving the goals. The PC is now developing an Implementation Plan which will focus on how to solve the aquifer depletion issue—the top priority problem. Implementation of preferred strategies is expected to begin in the fall.

Public Participation

The Radom PC has undertaken a number of activities to educate the public about environmental issues, solicit their opinions and actively involve them in solving environmental problems. The Committee has published and distributed a quarterly newsletter, participated in local radio and TV programs, and held a series of public information meetings about the top priority problem areas. The Committee prepared and distributed a survey to over 1,000 Radom residents asking them, among other items, which environmental problems they felt were most severe. In April 1996, the PC organized a tree-planting day, bringing 2000 residents together to plant over 600 trees throughout the community.

B. Local Environmental Action Plan for Elk

Municipal Profile

Elk is the second venue for the Pilot Project. The town is approximately 20 square kilometers, with a population of 55,000. Elk is located within the “Green Lungs of Poland.” The most developed sectors of the economy are the agricultural and food processing industries, and the electro–plating and timber industries. The greatest polluters are a meat processing plant, a dairy cooperative, an automotive electro–technical plant, a plywood manufacturer, and the district heating plant.

Areas of greatest natural value within the town boundaries are two lakes and a beaver refuge with an area of 1.9 sq. km.

The structure of local government is similar to that of Radom, but proportionally fewer people are employed by the municipality office. There are two staff specialists in the Department of Architecture and Land Management, and environmental protection inspectors. Funds available from the municipal Environmental Protection Fund for 1995 totalled US$ 42,000. An additional US$ 2.6 million was earmarked for the modernization of the sewage treatment plant, the communal waste dump, and the building of a sanitary sewer main for a housing estate. A similar sum is guaranteed for 1996. Elk has implemented the “Elk - Environmental City” Program and prepared “Principles of Environmental Protection and Shaping” within the framework of the City of Elk Master Spatial Development Plan. Education in the field of environmental policy has had limited scope to date. Training has been given at the district level for the staff of the local administration.

The Elk Environmental Society has existed since 1993. The Environmental Emergency Task Force is in operation as a part of the State Fire Department. The society has organized such campaigns as the Great Mazurian Clean-Up, Clean Up the World, and participation in the Earth Global Action Plan.
LEAP Development

PROJECT PHASES

The basic structure and methodology of Elk’s LEAP was identical to that of Radom. Therefore, only results and particular aspects of the LEAP development are mentioned. The project started in December 1994 and will be completed at the end of 1996.

Phase 1 (October-December 1994): Initial training and drawing the vision and goals.

A brief introduction to teamwork and training in methods of identifying economic problems was conducted in Elk. Three sub-committees of the PC were formed to deal with: environmental problems, economic development, and community contact and education.


Phase 2 was to be carried out in three stages. The process of the first two stages—preliminary identification of environmental problems and verification—was identical to that of Radom. During Stage 3, a final verification was completed, focusing on the aggregation of the problems.

3. A subsequent verification of the list of identified local environmental problems by the PC.

In Elk it was decided that the priority list should be restricted to the five main environmental problems considered most important by town residents: lake and river pollution, air pollution from low emission sources, degradation of plants and animals, air pollution from high emission sources, and noise. Thus, soil and ground water degradation issues were removed from the list of topics to be included in the program. Other subjects of interest to citizens, such as economic development, were also considered.

Phase 3 (April-October 1995): Priority-setting

Health risk assessment

The health risk analysis for Elk encompassed problems relating to air pollution, water pollution of the lake and river, and noise.

Ecological risk assessment

The same risks to ecological systems as in Radom were assessed in this step.

Economic and quality of life risk assessment

Residents of the town had an enormous interest in the economic development of the town on the basis of existing environmental resources. The PC therefore decided to conduct separate analyses for economic risk linked with environmental degradation, and analyses related to the decrease in quality of life. Economic risks were evaluated by the PC in a “brainstorming” session. The main economic effects of observable environmental problems were defined as a result of this process. The effects were then evaluated by the Committee, with emphasis on the scale of burden.

The risk to quality of life was assessed by the PC on the basis of a sociological questionnaire distributed to the town residents.

Ranking method

The host of the session was a primary school, well known for its interest in environmental education. Representatives of the voivodship, as well as town authorities and those of neighboring municipalities, were present.

The comparative risk analysis proved successful as a method for determining local environmental problems. Threats resulting from each individual problem were assessed (based on knowledge of the town’s environmental problems, results of expert analyses, including the analysis of economic threats and the decrease in quality of life).

Taking into consideration four risk categories and the weights applied to specific types of threats, environmental problems were ultimately grouped:

High-risk problems:
- lake and river pollution;
- air pollution from low emission sources.

Medium-risk problems:
- degradation of plant and animal life as a direct result of human action;
- air pollution from high emission sources.

Low-risk problems:
- noise.

The second day was devoted to discussions related to the results of the residents’ sociological questionnaire. The Mayor of Elk and Municipal Office staff were invited to the session because of their knowledge and experience in this field.

Other issues to be raised included:
- the current state of solving investment projects;
- the capacity for effective spending of present financial resources;
- the possibility of procuring additional finance for these problems (potential subsidies and grants);
- the possibility of cooperation with the municipality authorities in solving the given problems;
- the importance of the given environmental problems with respect to the implementation of the sustainable development concept of Elk.

The priority problem finally agreed to was the lake and river pollution.

Phase 4 (since July 1995): Economic evaluation of the sustainable development program.

When the project agreement was signed, the idea of developing not only an environmental action plan for Elk, but also a sustainable development action plan, was raised by authorities. An economic component was therefore included in the Elk workplan, to be carried out by a team consisting of members of the program. Economic development goals were established during several meetings with interested citizens, focusing on tourism, agriculture and food processing. On this basis, the ISC compiled training materials related to problem-solving, access to information, and implementation of the economic development plan.

A cooperative agreement was signed between the town authorities and the surrounding communities (within the Municipality of Elk limits). This first step included:
- development and implementation of joint strategies;
- preparation and co-financing of the economic, tourist, and cultural activities of the Elk Lake Land;
- establishing the Elk Lake Land Promotion, Economic and Tourism Information Bureau.

The same steps towards real action as identified in Radom were to be taken in Elk: selection of strategies, creation of an action plan, setting indicators for project effects, and the implementation of an action plan to address priority problems.
Conclusions

Achievements

Although the project is still under execution, positive changes are already visible in both towns.

Public activity

This mainly takes the form of local community groups cooperating with local government. Important aspects of success include involving the greater public in consultations at every project phase, as well as access to information.

Cooperation

A functional relationship between this pilot project and the National Environmental Action Program has been established. The Ministry of Environmental Protection, Natural Resources and Forestry considers the pilot project part of the NEAP. Representatives from the ministry participate in some meetings as observers (the ministry is willing to play a more active role in supporting this venture).

Time framework

A two-month period between the launching of the project in Radom and in Elk seems to be an appropriate time to transfer experience. This should be maintained - the two towns should not, as initially assumed, work simultaneously. This makes coordination easier, and avoids repetition of the same mistakes in both towns.

Education

Radom's PC publishes a special information bulletin, and prepares news to be broadcast on radio and television. Special classes for the public were held in both towns related to the development of public awareness, enthusiasm and participation. An inter-school competition of initiatives for environmental protection was organized for Earth Day - primary school pupils conducted a streetside poll on the town's environmental problems as well as on action undertaken within the framework of the project.

Experience sharing

ISD has published and distributed the Rad–Elko Bulletin to almost two hundred recipients; half of them are municipalities throughout Poland. Five issues of this Bulletin will be published in the form of the LEAP reports. One of the most important presentations of the project was held in the Parliament. This started the preparations of the national government for the "Environment for Europe" Conference held in Sofia in October 1995. The meeting was initiated by ISD and the REC, and attended by members of the government and Parliament, local governments, NGOs, and project members.

Weaknesses

Skills

The greatest difficulty has been identified as the lack of knowledge and expertise related to the Ecological Risk Assessment. Therefore, additional training and consultation for many Polish technical experts is necessary. It might be also worthwhile to consider additional workshops related to communication between the town's various interest groups, the development of public initiative, and the external promotion of the town.
COUNTRY REPORT: SLOVAK REPUBLIC

UPPER NITRA REGION

BORIS STRECANSKY

Introduction

The Regional Environmental Action Plan (REAP) in the Upper Nitra region has several components, each of them with a separate focus, objectives and a distinct context. In 1994, the Ministry of Environment of the Slovak Republic (MoE) initiated the development of District Environmental Policies, as a follow-up to the National Environmental Strategy and as a framework for environmental improvement and investment in the environment. The District Environmental Office in Prievidza was one of the branches of the MoE requested to develop such a comprehensive district policy. The document, Environmental Strategy for the District of Prievidza, released in early 1995, contains a description of the condition of the local environment, lists of short-term, medium-term and long-term goals and required improvements. However, specific priorities and revenue sources were not identified. Further, the problems and recommended improvements were not discussed with stakeholders, either within or outside the district. While the Strategy recommended improvements requiring considerable investments, it did not explore policy and institutional options which could provide cost-effective solutions to some of the problems, or set a framework for more targeted priorities.

This project—Upper Nitra Region Air Pollution Management Plan—has focused on improved institutional performance in environmental management (it is one component of the three-legged approach recommended by the Environmental Action Program for CEE) as a cost-effective solution. The project is intended to assist institutions in the district of Upper Nitra to improve their capacity to set environmental priorities, identify and address institutional obstacles, create coordination mechanisms and involve stakeholders in decision making. In this way, the project team hoped to address issues not covered by the Strategy, to provide information, and to implement an approach that put the emphasis on discussions, consensus and participatory decisionmaking. Thus, the project involved activities by which various stakeholders in the Upper Nitra region reached agreement on the need for institutional coordination and reform. In this process, project efforts and achievements have also assisted regional institutions, businesses, local governments and NGOs to agree on environmental priorities, identify some investment needs and opportunities for financing, though those were not the primary objective of the project. The financing opportunities have not been realized, however, due to general privatization problems and the limited readiness of the identified potential investment recipient, Novacke Chemical Works.

Project activities commenced in September 1994 and will be completed in June 1996. Though not directly related to or following from the Strategy document, one should view this process as complementary to other EAP efforts undertaken in the Upper Nitra region.

Upper Nitra was selected as a demonstration region for the REAP development by the MoE in consultation with the World Resources Institute (WRI) for the following reasons:

- it is one of the environmental “hot-spots” in Slovakia;
- it has a relatively long history of environmental monitoring and availability of long-term data on human health and environment;
- it is a typical Slovak region with social and economic problems and a dominating industrial area, and because of the number of projects and proposals developed, information on the area is relatively good;
- the District Environmental Office supported the project.

The project has been managed by WRI and funded by the United States Agency for International Development (USAID) under a sub-agreement with the Harvard Institute for International Development (HIID), Massachusetts, USA. WRI formed a partnership with two local partners: the Environmental Training Project Foundation, Slovakia (ETP-S) and the District Environmental Office in Prievidza. The process has also been coordinated with, and supported by HIID, the Environmental Training Project (ETP) for Central and Eastern Europe, Minnesota, USA, as well as the MoE of the Slovak Republic.

LEGAL FRAMEWORK

Because no regional environmental plan has been launched, no legal structures have been established for that purpose. A number of legal options need to be explored for the REAP development and implementation. The legal position of inter-agency joint actions or cooperation at local or national level also needs to be analyzed. One of the possible legal tools for ensuring cooperation is law 595/1990 (Act on Specialized State Administration).

Another sub-legal option is a declaration of the short and mid-term goals of the local environmental strategy in the above mentioned law (education; public awareness; organization; management and coordination of environmental protection). The law specifies the establishment of structures for the project management of environmental improvements and a local environmental information system in Upper Nitra, enabling cooperation between the MoE, international agencies and local environmental organizations.

Basic Information

MUNICIPAL PROFILE

The Upper Nitra region is the name of a territory covering the area of two districts - the District of Prievidza and partly the District of Topolcany. The region is not defined in the administrative structure of the Slovak Republic and in the project, the term will be used synonymously with the District of Prievidza, which is one of 38 administrative districts in the Slovak Republic.

In the first half of this century, the Upper Nitra region...
Developing a mechanism for institutional cooperation for air quality management in Upper Nitra
had been mainly an agricultural area. Nowadays, it is one of the most industrial regions of the Slovak Republic. Rapid industrialization brought new jobs, raised the level of economic and the social development of the region. The economic structure is balanced among industrial production (thermal power, chlorine chemistry, rubber, concrete, food, furniture), natural resource exploitation (brown coal, logging) and agriculture (technical crops, grain).

Industrial development has caused extensive environmental damage of the district and also beyond its borders. The region is one of the most polluted areas of Slovakia. The damage to natural resources are evident in the total environmental deterioration, including widespread air, water and soil pollution carrying unknown substances, dilapidated technology emitting pollutants into the environment and food chain, increasing amounts of the waste. This has had a negative influence on human health, on the genetic record of the plants and animals, on the internal relations of the ecosystems, qualities and vitality of the materials.

The main environmental polluters are the chemical plant Novacke Chemical Works (air, water), power plant Slovenske elektrarne (source of fuel is local brown coal: air, soil), mining company Hornonitrianske bane (open pit and underground mines in the district: soil, water), transportation, and households (air). Some companies are still state owned, being heavily supported by the government (mines) or having a monopoly in Slovakia (power production).

Currently air pollution is caused by the extensive industrial development of last few decades. The increased quantity of sulphur and NOx causes intense damage to trees. The region is virtually formed by the Nitra river-basin. The river quality is poor (rated the fifth-worst) mainly because of the influence of the municipal waste water treatment plant in town Handlova, one of the coal mines and of the industrial enterprises in surrounding Novaky, primarily the Chemical Works. In the district, there are 81 resources of underground water: The main pollutants are chlorides, mercury and manganium. There is a complete sewer and waste water treatment plant built in only nine of 52 villages of the district (17 percent).

The soil has been poisoned by arsenic which has been emitted into the atmosphere by a coal-burning power station. The bulk of the waste produced in the district is produced by the thermal power plants in Zemianske Kostolany and mines in Handlova. The main producer of hazardous waste is the Novaky Chemical Plant. Fifty percent of the plant’s waste is landfilled - 179 waste dumps have been reported on the district territory.

The main environmental assets of the district are forested areas, swamps, upper parts of river Nitra and protected, mountainous areas. The upper part of the Vtánci mountain range is a National Nature Preserve. There are several historical and cultural monuments in the region which attract tourists - Bojnice chateau and Bojnice thermal spa.

The district represents secondary-level state government (national government - third-level, district government - second-level and sub-district government - first-level). There are two levels of government in Slovakia: the central government and local government in municipalities. In 1990, the law which established elected municipal self-government, was passed. A distinction was drawn between local state administration and local self-government. District offices and municipalities often have different views on priorities, local development issues and mutual cooperation. In the area of environmental protection, most power rests with the district environmental offices, whereas the municipal offices have relatively little authority and powers of enforcement over large and medium polluters.

There are several district offices under the auspices of different ministries: District Authority of Prievidza - Ministry of Interior; District Environmental Office - MoE; State Health Office - Ministry of Health; etc. The main purpose of the District Environmental Office in Prievidza is to enforce state environmental policy at the district level and execute the commands of the ministry at district level (issuing permits, fines, fees, etc.). The Sub-District Environmental Offices are located in Prievidza, Novaky and Handlova: they deal with nature protection, air pollution and water protection for the whole district, waste management and building/land planning areas. The office has developed a “Strategy for Environmental Care of the District of Prievidza”—a district environmental policy - including a summary of the environmental condition of the district, with lists of short-, medium-, and long-term goals. Cooperation between various state institutions and local government is poor.

In the District of Prievidza there are 52 municipal governments, including four cities, the remainder are villages. Some municipalities have established Environmental Committees in the municipal councils. Within municipal offices, environmental protection is usually overseen by the Department of Building and Land Development. There have been some attempts in the past to assess the overall environmental damage of the area, but these resulted only in statements related to environmental damage, and estimations as to the cost of a cleanup. The major projects for environmental improvement currently in progress are:

- Participation in the AGIPLAN project (German-Austrian study on the environmental improvement of Upper Nitra and Ziar regions);
- Desulphurization of ENO Novaky and installation of fluid boilers (implementation has been delayed due to lack of funds);
- Scottish/PHARE initiative - to develop an old mining area in Handlova into a modern industrial zone.

There are several environmental NGOs in the region dealing with environmental education; giving lectures; cultural events; concerts aimed at motivating citizens; monitoring wetlands; organizing meetings; summer camps for children and youngsters aimed at restoration of natural and historical monuments, etc. Their activities draw attention to environmental problems of the region. The public is not very sensitive towards environmental issues as reported by local government officials and NGO representatives, who have problems discussing these areas.

**Project Goals and Objectives**

The project team hoped to improve communication and understanding among stakeholders on environmental problems of the region, therefore the overall goal of this project has been to assist the district institutions, businesses, local governments and NGOs in overcoming institutional and sectoral barriers and reach consensus on:

- Environmental problems and priorities in the district;
- Institutional responsibilities and obstacles for improved management of the selected priority problem;
- Necessary action to overcome these obstacles;
Project Development

METHODOLOGY

Methodology for the project was designed by WRI, a policy research and capacity building center, in consultations with Slovak institutions and individuals. It rested on a number of assumptions and limitations, some of which are:

- a decision-making process can be successful only if undertaken with local organizations;
- local ownership and capacity will determine the success of the project;
- time and available funding are not sufficient to complete the REAP program for the Upper Nitra;
- political realities and priorities are likely to change through the life of the project;
- setting environmental priorities will require the integration of environmental and monitoring data collected by many institutions in the region and an agreement among stakeholders of data implications.

Given these assumptions, WRI planned these steps to achieve the goals of the project:

- establishing partnerships with local organizations;
- building local skills by supporting analysis of the legal and institutional framework and surveys of institutional capacity for environmental management in the district;
- holding retreats and workshops to facilitate discussion and consensus among stakeholders on environmental problems, priorities, institutions and responsibilities;
- implementing a process of environmental data collection and health-risk-based priority-setting;
- disseminating information and lessons learned in Upper Nitra.

This methodology was combined with the expertise of local institutions and consultants. There are two aspects: the content (steps, studies, reports) and participatory methods. A balanced and proper use of participatory methods and techniques, such as brainstorming, have been critical to the process.

A number of working group sessions and retreats were organized during each phase of the project. They were supported by analyses of the legal and institutional framework for environmental management within the region by Slovak experts, under the guidance of WRI and ETP. Two training workshops were also held to promote understanding, build skills in communication, and the use of environmental management tools:

1. “Effective Communication, Negotiation and Conflict Resolution in Environmental Protection.” Topics included effective meeting management, bargaining and negotiation. The target audience was the District Environmental Agency, Subdistrict Environmental Agencies, municipal governments, and individuals directly involved in the institutional component of the REAP.

2. “Air Quality Management Tools.” Topics covered: problem identification and selection; enforcement tools; incentives; promotion of compliance; information; outreach and solicitation of the public; identification and selection of strategies for pollution abatement; development of proposals and evaluation. The information and materials for each of these topics was developed by the working group. The workshop was tailored specifically for the working group and was designed to support decisions related to required institutional changes.

PROJECT PHASES

The project began in September 1994 with scheduled completion by June 1996. There are five phases:

Phase 1 (December 1994-February 1995): Start up, project partners and participants assignment

The project was begun by the selection of Upper Nitra as the target area for the REAP.

The partnership between WRI and ETP-S was established during the start-up phase and the roles of the two project partners were clarified. ETP-S provided logistical and expert support to the district, facilitated working group meetings and workshops and acted as a liaison with the MoE and HIID policy advisor at the Ministry. WRI was responsible for the overall project management, designed the methodology and provided guidance or developed materials for workshops and retreats.

The most important local actor in the process was the District Environmental Office in Prievidza. The Office was instrumental in initiating the project in the region, hosting a district working group representing stakeholders, serving as a resource and meeting place during the process.

The project was launched in the region in December 1994, with a meeting of mayors of the towns of Prievidza, Handlova, Bojnice and Novaky. The State Secretary for Environment and the Head of District Environmental Office attended. Also in attendance were representatives of various local institutions, including the Municipal Offices of Prievidza, Novaky, and Bojnice; the District Environmental Office; the Sub-District Environmental Office; Novaky Chemical Works; Zemianske Kostolany Power Plant; the Slovak Environmental Agency; the State Health Office; the Research Institute of Petrochemistry; the Slovak Association of Nature and Landscape Protectors, and the Association of Towns and Villages.

Phase 2 (February-May 1995): Identification of local environmental problems, their causes and impacts; setting priorities

Together, the groups attending the launching meeting for the project formed a regional working group which was the core of the project. The group’s work was conducted at a number of retreats and workshops. Beginning with a one-day introductory workshop, participants were briefed on the EAP process and its relationship to Slovak environmental policy. The goal of the workshop was to introduce the project and build skills for priority-setting based on current knowledge of the problems.

The basis for discussion related to the environmental problems of the Upper Nitra region, which was the policy document developed by the District Environmental Office “Environmental Strategy of the District of Prievidza.” The strategy provides some data and defines the general environmental problems of the region as air pollution, water pollution and waste. After studying the document, the group brainstormed and developed a list of environmental problems in the region, assigned pollutants to each problem, identified pollution sources, and the known or suspected health impacts. The discussions indicated that additional information would be necessary to specify the problems, their current status, and impact on the health of residents in the Prievidza district. Despite the data gaps, the participants considered skin cancer and cancer of the liver (angiosarcoma) the most serious health impacts,
which they assumed were related to air pollution.

Following the working group discussions, ETP-S identified institutions, other than the participating ones, that were likely to have additional information, contacted them and collected the available information. In the meantime, working group members also collected data from their respective institutions. In addition, public opinion about environmental problems in the district was also considered. Though no managed survey on public opinion was made specifically for the purpose of this project, researchers from several institutions presented information acquired by such a survey on arsenic contamination, and some other health-related data.

This indicates that significant amounts of information:

• existed, but was not available at the district institutions because research was conducted privately or conducted by groups who were no longer a part of the government structure;
• was scattered and difficult to collect;
• was contradictory, depending on the researcher;
• did not exist, or existed in a form difficult to use for priority-setting.

A working group retreat was held to select priority environmental problems related to health risks. A number of uncertainties still existed in additional information collected, especially regarding vinyl chloride and arsenic. Evidence of vinyl chloride’s teratogenic or the mutagenic impact on the local population was unclear and contradictory, especially on former workers of the PVC production line in Novaky Chemical Works. Arsenic and small sources of air pollution represented another problem because of the ambiguity of available data: arsenic levels have dropped, but its presence in the water and air is still high. Possible impacts on food and crop production were considered by the working group. Concerns were expressed that SOx and NOx from household heating poses a high health risk for certain localized areas, but reliable data is missing.

Thus, the working group collected data and information from different monitoring and research institutes, industry and their environmental departments, including information about public opinion of some pollutants and associated health risks, as well as concerns and views of experts representing polluters and enforcement agencies, or civil servants and NGOs.

Working group members agreed that, based on available information, no clear statement can be made about all sources and the health impacts of different environmental problems. The group selected air pollution as a priority for action, though the problem has been recognized as very broad and uncertain. The concerns of working group members were only partly addressed by the strategy and the substantial amount of additional information collected. Monitoring tendencies in the development of the problem and collecting data, estimating the impact and residuals of arsenic in the soil and water was agreed as the most important tasks for regional institutions.

The main outcomes of the working group discussions were:

1. An agreement on, and identification of, air pollution as a priority environmental problem. The problem description contained all available information related to ambient and occupational air quality, pollution sources, tendencies, health impacts and the uncertainties of classic pollutants, vinyl chloride and arsenic. In particular, it was agreed that all available research must be collected according to methodology adapted to the realities in Slovakia, and targeting investments to reduce risks. Though the group did not conduct additional monitoring activities, it achieved new knowledge by pooling data and information together.
2. Recognition of two important uncertainties and constraints: ambiguity of information for decisionmaking and limited or non-existent financing resources for implementing solutions. Both constraints have been the focus of further discussions.
3. Identification of the number of uncertainties related to information problems:
• Limited or contradictory information about the severity of other environmental problems and their impact on health, such as soil contamination and impacts through the food chain;
• Outdated information which did not reflect the decline in production or some of the clean-up activities recently undertaken;
• Lack of information about geographical distribution and affected age and social groups, which made it impossible to decide whether ambient air or air in the occupational environment posed a greater risk; or whether certain parts of the district were more affected than others;

During this phase, the group became comfortable using team work and brainstorming techniques.

Phase 3 (March-July 1995): Clarifying the legal framework and institutions.

The project team believed that the constraints described above can be at least partly addressed by clarifying institutional roles, priorities, resources, obstacles, and possible steps to improved performance. For this purpose, the following activities were conducted:

• Brainstorming and discussion on the relevant institutions, their responsibilities and how they relate to each other in environmental policy or implementation of improvement measures;
• a study of the legal framework for regional institutions: mandates and authority for environmental management and addressing air pollution problems;
• Agreement through discussion on institutional priorities and obstacles for implementation - the different stakeholders identified priority mandates and legal obstacles;
• Identification of available institutional resources and bottlenecks.

During this phase, the working group reviewed local and national institutions and matched the institutions with their functions. The next step was to define the legal framework, establish whether it supports these functions and specify the mandates and role of the institutions in the Upper Nitra region. Based on the legal analysis, working group members identified the three most important functions of each institutional area - local government, central government, industry, NGOs and expert institutions. (The results were supported with existing legal codes). It became clear that strengthening the monitoring and enforcement capacity and gradually introducing realistic standards and conditions for compliance were priorities on which enforcement agencies, industrial polluters, municipalities and NGOs agreed. Some legal obstacles for performance were also identified.

A survey was conducted focusing on resources available
to institutions and procedures in place to support mandates. Some of the findings of the survey are:
1. Resources to institutions:
   • local government (both state and self-government) deems current financial resources insufficient for necessary monitoring equipment;
   • compliance with the law is the main criterion for finance allocation at surveyed institutions. The health risk is at medium or lower rank.

2. Procedures supporting institutions' mandates:
   • contact between NGOs and other institutions is poor compared with the frequent contact between government and industry;
   • low priorities include: coordination with other institutions; public awareness activities; health risk assessment at surveyed institutions (48 percent of respondents devote no time on coordination, 60 percent spends no time generating public information, 70 percent spends no time on public education, and 78 percent spends no time on health risk assessment).
   • cooperation between institutions is assessed as successful, mostly because of an increase in inter-agency coordination regarding air quality management.

   The results are only approximate due to a low questionnaire return rate, and relate to the institutions which responded only.

   Activities during this phase helped:
   • clarify institutional mandates and priorities in the region;
   • identify some obstacles created either by the legal framework, or the institutional arrangements and capacity;
   • create better understanding of the different problems stakeholders have and establish cooperation between them.


At an early stage, it was recognized that local institutions will not be able to address air pollution problems without external financing and funding. During the previous phase, representatives of industrial polluters in the region pointed out that due to the economic difficulties, a period to gradually introduce treatment installations or new, less-polluting processes is required. It was also acknowledged that the share of non-point sources is likely to grow due to the economic difficulties which force households to use very low quality coal or ash. Despite these problems, steps should be taken to clarify problems and their sources by improved information and to move gradually to enforcement and compliance. Financing has been beyond the scope of this project and that is why the project partners and the working group focused their efforts on institutional strengthening. In order to identify areas where institutional improvements were needed and possible, working group members identified criteria which they used later on in selection of an area for institutional reform.

   Having identified the functions of institutions to address the air pollution problems, working group members agreed on the following at two workshops:

1. The main economic, environmental and political trends in society which need to be taken into account. Participants produced a list of major events from 1989 through 1995 which had an impact on institutions (for instance, adoption of the EIA law, law on state administration in environment, decreasing opportunities to travel abroad in 1995, or the non-existence of NGO law). The main new challenges before institutions were identified.

2. Tools for air quality management, regional institutions responsible for implementing them, and areas where action should be taken. Working groups developed a matrix of air quality management tools and institutions and grouped them in the following categories:
   • management areas where cooperation and coordination among regional institutions is needed to improve performance and air quality management;
   • areas of overlapping responsibilities (i.e. more than one institution has identical responsibilities) where delineation of functions and mandates is needed;
   • absence of a decisionmaker regarding certain management activities, despite legal provisions;
   • legal gaps or tools which are not provided for by legislation (i.e. pollution trading);
   • with the exception of the last category, where it was noted that this may be a longer-term objective, the working group agreed that steps and changes in the three areas will improve air quality management in the region.


   Working group members brainstormed and identified criteria which they used later when selecting the focus of institutional reform. Four categories of criteria have been defined:
   • reflect the trends - assist in implementing new legislation, assist in strengthening institutions to meet new challenges;
   • improve air quality - the importance of air pollution management, the impact of air pollution, as well as the impact on polluters;
   • economic-total costs, cost-benefit, resource-saving;
   • other - acceptability to the public and availability of support, feasibility - time restraints, etc. - manageability (clearly defined responsibility).

   The group decided to consider only those criteria which did not require extensive study. The following criteria were selected for implementation:
   • time restrictions and manageability: the follow-up activities selected should be implemented in a relatively short time, as easily as possible;
   • total costs and resource saving: given the limited available resources, action should not entail considerable expenses and should help save resources;
   • the importance of air pollution management.

   Activities meeting all these criteria could be expected to assist institutions in coping better with the challenges posed by new trends in legislation and development.

4. Options for action

   The working group applied the criteria to the three areas in which it felt action could be taken, and agreed that coordination between stakeholders meets those criteria best and that it may also help address issues in other categories, too. Working group members defined the following possibilities:
   • establishment of a permanent, regional coordination...
mechanism to ensure accessibility of data by means of pooling available monitoring and health data for use by all regional institutions and the public. A summary of the latest public opinion survey regarding values and trends in Slovakia demonstrated the importance of keeping the public informed of the condition of the environment and decisions, in order to raise awareness and gain support for action that would lead to reduced pollution;

• establishment of a regional environmental fund instead of local funds;

• development and implementation of a program to assist local government perform their new responsibilities for managing non-point and mobile pollution sources.

Most impact will be achieved by establishing a permanent mechanism for:

• coordination of air pollution monitoring;

• cooperation of local and state government, expert organizations, municipal government, polluters and non-governmental organizations;

• educational and information dissemination activities.

Of all required institutional and policy changes, the participants focused on limited, feasible changes which will build one component of a REAP.

Phase 5 (January 1996-ongoing): Implementation

The project has reached the stage where implementation plans addressing specific issues can be developed as components of an overall regional, environmental plan. The group decided through consensus that the action plan needed to be developed for institutional collaboration at the regional level. The objectives of the plan were defined as: sharing information, providing support for self-government in air quality management, and public information activities. The participating institutions, as well as the leading institution, have been identified, and a Steering Committee (SC) formed. The formal support and explicit consent of the MoE, however, is the indispensable first step to the development of an action plan for the partial reform of a number of regional institutions which report to different national agencies.

Further implementation will depend on the commitment of the MoE and local institutions to continue the process. At this point, the SC exists informally without being framed in the legal system, though some legal options exist and potentially it can be the vehicle for the REAP process in the region. The necessary condition for this is also that representatives of involved institutions delegate certain authority to the SC or integrate its decisions into agendas of their institutions.

Conclusions

Achievements

Cooperation

Participants recognized that by using certain tools related to cooperation and gradual empowerment, environmental problems can be addressed more effectively.

The process helped to: improve understanding among stakeholders; conclude agreements amongst groups with different interests on a number of environmental and institutional issues; conclude agreements related to institutional responsibilities and constraints; emphasize the importance of continued cooperation, coordination, understanding and acceptance of the need for public outreach and information.

The role of the territorial branch of central government - the District Environmental Authority - needs to be appreciated and recognized because it provided the expertise and played a significant role in the overall development of the REAP.

Information

A study of the legal framework and a survey of local government resources for environmental management was conducted and provided information related to institutional capacity and the framework in which different institutions operate. Though no new data and information were generated regarding the definition of environmental problems, both environmental and health data, as well as information about public opinion on some pollutants, were gathered from different sources and institutions which usually do not exchange this information.

Foreign input

The role of foreign aid - both methodological and financial - has been significant. WRI managed the projects, designed the methodology, provided guidance and developed material. Most of the material was prepared by the ETP-S, with guidance from WRI; some was developed by members of the working group. The project strongly emphasized local ownership, though its scope was determined by the US partner.

Participation of businesses

The active involvement of representatives of the main polluters in the process and their input has been a pleasant surprise. The Novaky Chemical Works assisted in the early stages—problem definition—in providing pollution data related to their operations. Secondly, both the power plant in Zemianske Kostolany and the Chemical Works were open and actively participated in discussions. They provided insight to environmental, technological and financial problems.

Education

Training represents an inherent component in the REAP development, mostly in the area of communication. Through involvement of ETP-S—a training institution—these needs could be flexibly addressed. Furthermore, the project helped representatives of local institutions develop new skills in problem definition, decisionmaking and project management.

Weaknesses

Unclear planning

In the beginning, participants were not clear about the process and the project. This created misunderstandings between project partners and the working group.

Time limitations

Any project focusing on institutional change for improved performance using work methods established by the decisions and agreement of stakeholders requires a long period in order to build trust, overcome institutional resistance, hold retreats, group meetings, etc. Time limitations did not allow for the full impact of the project.

Selection of the target area

The way the region was selected ensured the active involvement of the District Office, which was crucial to the project. However, the fact that it was selected, rather than giving stakeholders the opportunity to commit themselves to the project, had an impact on later activities. Thus, despite the presence of foreign aid, the REAP has not
become a priority for the Upper Nitra region. Neither has it become a priority for the MoE, mainly because of political changes.

**Involvement of local governments**

Local government participation has been limited, which is a negative feature of the project. The self-governments have not been motivated enough to actively participate, though it was recognized that municipalities are an important actor in environmental management of a regional scope. Yet, their priorities are different and they do not see themselves as active players.

**OBSTACLES**

**Political influence**

The MoE played an important role in the beginning of the project in selecting the region and officially approving the project. Official ministry policy towards the REAP had not been finalized at the time the process in Upper Nitra started, however. And the government changed during the life of the project, resulting in change in the MoE attitude toward the project. This change caused inconsistencies in MoE priorities, resulting in a discrepancy between the Ministry’s priorities and the process in Upper Nitra. As a result, the MoE has not been directly involved in activities in the region. The project—implementation of a plan leading to institutional changes—cannot continue without MoE support. Efforts are being made to ensure the direct involvement of the Ministry in the current stage.

**Insufficient responsibilities**

Members of the working group were appointed by respective institution, however, they often changed. This had an impact on the quality of the discussions and the speed with which the project progressed. Also, members of the working group were not authorized to make decisions on behalf of their institutions.
List of Participants in the Project

PROJECT PARTNERS

BULGARIA
- Institute for Sustainable Communities, Vermont, USA
- “This Is My Environment” (TIME Ecoprojects), Sofia
- Ecoglasnost-Stara Zagora
- Municipalities of Troyan and Stara Zagora
- World Resources Institute, Washington, DC, USA

CZECH REPUBLIC
- Municipal Council of the Town of Kolin
- Institute for Environmental Policy, Prague

HUNGARY
- Canadian Urban Institute, Toronto, Canada
- VATI - the City Planning Institute, Budapest
- Ministries of Environment and Regional Planning; Industry and Trade; Water Management; and Interior
- Board of Representatives of Pest County
- Representatives of the City of Budapest
- Self-Government of XX District of Budapest
- Institute for Sustainable Communities, Vermont, USA
- Independent Ecological Center, Budapest
- Municipalities of Mosonmagyarovar and Satoraljaujhely

SLOVAK REPUBLIC
- District Environmental Office in Prievidza
- World Resources Institute, Washington, DC, USA
- ETP-Slovakia, Bratislava

POLAND
- The municipalities of Radom and Elk (local government authorities, public organizations, educational institutions and organizations, representatives of local interest groups, and residents)
- District authorities of the Voivodeships of Radom and Suwalki
- Institute for Sustainable Development, Warsaw
- Institute for Sustainable Communities, Vermont, USA
- US Environmental Protection Agency, Washington, DC, USA

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- The Rockefeller Foundation
- The Charles Stewart Mott Foundation
- The John D. and Catherine T. MacArthur Foundation
- The Rockefeller Family and Associates
- The German Marshall Fund

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The Regional Environmental Center for Central and Eastern Europe (REC) is an independent, international organization established in 1990 by Hungary, the United States and the Commission of the European Communities. Twelve countries have since joined these founding sponsors.

All of the REC’s programs are unified in their resolve to promote regional cooperation among diverse interest groups in Central and Eastern Europe, to build the capacity of stakeholders to solve environmental problems, and to promote the development of a civil society.

Beneficiary countries include Albania, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, FYR Macedonia, Poland, Romania, Slovak Republic and Slovenia. In these countries, the REC supports environmental nongovernmental organizations (NGOs), local authorities, national governments, the media, businesses and academic institutions.

Developing Local and Regional Environmental Action Plans