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**CENTRE FOR CO-OPERATION WITH THE EUROPEAN ECONOMIES IN TRANSITION**

**ENVIRONMENTAL INFORMATION SYSTEMS AND INDICATORS  
A REVIEW OF SELECTED CENTRAL AND EASTERN EUROPEAN COUNTRIES**

**ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT**

**Paris 1993**

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## FOREWORD

The Centre for Co-operation with the European Economies in Transition ("the CCEET"), which was created in March 1990, is the focal point for co-operation between the OECD, the Central and Eastern European countries (CEECs) and the New Independent States of the former Soviet Union (NIS). Its major responsibility is to design and manage a programme of policy advice and technical assistance which puts the expertise of the Secretariat and Member countries at the disposal of countries engaged in economic reform. This advice or assistance can take numerous forms, including conferences, seminars, expert missions and workshops in order to explore policy questions or review draft legislation; it can also include training for government officials who are called to implement market-oriented policies.

The CCEET's work programme has six main components: the General Work Programme, in which twenty-four former centrally-planned economies currently participate; the Partners in Transition Programme, a specialised programme of technical assistance for Hungary and Poland; the Programme of Technical Assistance to the NIS; various training activities; the Support for Improved Governance and Management (SIGMA) programme; and the OECD Register, a computerised database of technical assistance, to allow the OECD to function as a clearing-house for information about flows of technical assistance to the CEECs and NIS. This monograph has been prepared within the framework of the CCEET's work programme.

A substantial amount of information on environmental conditions in the former CSFR, Hungary and Poland is available. However, much of it is scattered, of variable quality and accuracy, collected for differing purposes and often not comprehensive in coverage or historical record. The transition process has highlighted the deficiencies in information quality and purpose. At the same time, the new circumstances are fundamentally altering public and private sector expectations of, and demands for, such information.

The need for this report is two-fold. First, within these countries there exists a need to design and implement comprehensive environmental information systems that reflect and respond to the new economy-environment relationship that exists, as well as the "opening up" of information access to the public. No less important is the opportunity to establish information systems which are compatible and integrated with international systems. The collective experience of OECD Member countries provides some guidance on how these issues can be approached.

Second, there is a demonstrated urgency within the international community for credible, quality environmental information that can be used to assist short and long-term policy formulation and institution building. Environment Ministers at the UN-ECE meeting in Bergen in 1990 welcomed efforts to collect "objective, reliable and comparable information at the European level to assist in the effective

implementation of environmental policies, and to inform the public on the state of the European environment". The meeting of Environment Ministers at Dobris Castle in 1991 reinforced this call, stressing "the need to improve the environmental information and monitoring system in Europe". In addition, there is a need for reliable information that enables the environmental situation in Hungary, Poland and the former CSFR to be assessed by domestic and foreign private investors and lending institutions.

This report was prepared jointly by the Environment Directorate's Non-Member Countries Branch and State of the Environment Division. It is published under the responsibility of the Secretary-General.

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The environmental indicators presented in this report were developed on the basis of responses to the 1992 OECD Environmental Data Questionnaire. The co-ordinators in the review countries who compiled the questionnaire responses were Mr. J. Brezak (formerly of the Federal Committee for the Environment) for the CSFR; Mr. I. Juhasz (Ministry of Environment) for Hungary; and Messrs A. Mierzwinski (State Inspectorate for Environmental Protection - PIOS) and M. Grzesiak (Central Statistical Office) for Poland. The Secretariat expresses its warm appreciation for their assistance.

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## TABLE OF CONTENTS

	PAGE
EXECUTIVE SUMMARY .....	6
PART I	
The Challenge of Change: Redefining Environmental Information Systems .....	8
1.0 The Policy Context and Priorities in Redesigning Environmental Information Systems .....	8
1.1 Institutional Arrangements and Decision-making .....	10
1.2 New Partners and New Relationships .....	11
1.3 Diffusion of Environmental Information .....	14
PART II	
Environmental Indicators .....	18
2.0 Introduction .....	18
2.1 Environmental Indicators .....	18
Growth of Economic Activity	
Population	
Energy Intensity	
Energy Supply by Source	
CO <sub>2</sub> Emissions	
SO <sub>x</sub> Emissions	
NO <sub>x</sub> Emissions	
Urban Air Quality	
Transport Trends	
Use of Water Resources	
River Quality	
Land Use Changes	
Protected Areas	
Use of Nitrogenous Fertilizers	
Use of Forest Resources	
Threatened Species	
Municipal Waste	
Technical Annex	

## EXECUTIVE SUMMARY

This report concerns environmental information systems in the former Czech and Slovak Federal Republic (CSFR)<sup>1</sup>, Hungary and Poland. A substantial amount of information on environmental conditions was collected in these countries to assist the preparation, implementation and monitoring of state plans. Despite its availability, there are serious problems concerning the quality, accuracy and comprehensiveness of the information. The transition to a market economy underway in these countries is redefining the role of, and expectations about, environmental information in society, and stimulating the development of new institutional, methodological and communication approaches.

Restructuring environmental information systems in the three countries is associated with fundamental changes to the policy context and priorities for the design of environmental information systems, institutional arrangements and decision-making, and approaches to information diffusion. After discussing these aspects, the second part of the report presents selected environmental indicators for each country. The indicators were developed on the basis of responses from these countries to the 1992 OECD Environmental Data Questionnaire.

On the basis of the examination undertaken, it is evident that serious efforts are being made to restructure environmental information systems in these countries, concomitant with reforming existing institutional arrangements and upgrading technical skills. Some progress has been achieved but much also remains to be done:

- despite the existence of a wealth of data, **the purpose of its collection and its coverage needs to be better focused to support the work of decision-makers.** The role of environmental information needs to be re-oriented in order to match better the state's new role of monitoring and regulating market-based economic activity. Timely and reliable information can have an important influence in integrating environmental considerations into economic sector restructuring and in monitoring its outcomes;
- there is a **need to improve the quality of the data collected** and to establish confidence in the reliability of environmental information. Data collection mechanisms have to be reviewed and appropriate technology for environmental information systems chosen. The cost-effectiveness of technology should be a major criterion;
- **institutional arrangements** for environmental information need to be **improved and respective institutional roles unambiguously defined.** A clear division of tasks between environment and statistical offices has to be established. Much more than in the past, all relevant agencies should supply credible, objective information to support decision-making for sustainable development;
- the **responsibilities of central and local governments need to be made clearer**, taking account of requirements for co-ordination, cost-effectiveness and responsiveness to decision-making needs at the different levels of government;
- further efforts are needed to **integrate the environmental information systems** of these countries into the larger **international framework.** This would benefit from specific activities jointly conducted by countries and international organisations such as the EC, EBRD, IBRD, OECD, UN-ECE and WHO;

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1. The review was undertaken in 1991 prior to the separation of the CSFR into two distinct countries.

- imaginative and **broadly targeted environmental information and communication programmes** need to be devised to improve public awareness of environmental issues. Opportunities include consolidating the limited experience with state of the environment reporting and developing environmental indicators. This should be complemented by establishing public information programmes using a range of media and preparing resource-or sector-specific information brochures for the public and investors.

## PART I

### The Challenge of Change: Redefining Environmental Information Systems

#### 1.0 The Policy Context and Priorities in Redesigning Environmental Information Systems

The transition to a market economy and democratic institutions underway in the former CSFR, Hungary and Poland has re-oriented the relationship between the economy and the environment, as well as the role of the State in mediating this relationship. As the reform process deepens, environmental policies must compete for increasingly scarce resources against other pressing economic and social policy objectives. At the same time, implementation of environmental measures is constrained as much by the shortage of relevant experience and expertise as by the lack of resources.

In all these countries environmental policy is being redefined and efforts to develop national policy frameworks are underway. Common elements of emerging environmental policies include:

- a commitment to the goal of sustainable development;
- a strengthened role for environmental institutions vis-à-vis sectoral and central government agencies;
- establishing a firm legal basis for setting policies, their implementation and their enforcement;
- increasing the responsibilities of regional and local government for environmental management;
- a separation of the regulatory and economic development roles of government;
- adoption of the polluter-pays principle;
- recognition of "new actors" involved in environmental issues, including the public, NGO and sector interest groups, private enterprise, independent research institutes and labour unions; and
- strengthening co-operation with international institutions and programmes, with which contact has been limited in the past.

The new context for environmental policy is also transforming the roles of, and expectations about, environmental information. Environmental information is no longer a tool for use in the preparation and implementation of State plans. Instead, redesigned environmental information systems focus on several objectives: providing accurate and reliable environmental information to meet national and international demands; as a tool for monitoring and enforcing compliance with regulations and environmental policies; as an instrument for policy integration; and as a means of communicating with, and informing, decision-makers, the public, the private sector, NGOs and interest groups.

The political and economic transformations occurring in these countries entails a redefinition of policy priorities to address the environmental legacy of the previous system. First, in the transition phase, priority should be attached to strengthening the availability of quality environmental information in those areas/regions with the **greatest risks to human health and of irreversible environmental changes**. A balance must be struck between monitoring environmental levels and emissions as well as "peak" concentrations of air pollution in cities, especially as the latter can be particularly dangerous to sensitive parts of the population. The information generated should support the implementation of priority



environmental action programmes. The close co-operation of health and relevant sectoral ministries, together with environment ministries, will be essential for this purpose.

Second, in the transition period, reliable information is required by **foreign and domestic investors**. For example, environmental factors can restrict investment, and appropriate information is required to resolve difficulties which may arise. At an OECD/World Bank/EBRD conference on privatisation, foreign direct investment and **environmental liability** in central and eastern European countries, held in May 1992, it was established that liability for sites previously contaminated by hazardous substances was the major environmental deterrent for North American and European companies considering investment in the region. Information about the environmental conditions at particular sites, together with environmental audits carried out as part of an investment analysis, help to establish the basis on which the conditions for property transfer can be negotiated, and in a way that addresses environmental concerns and reduces uncertainty for investors. Monitoring systems may form part of a negotiated agreement, particularly where there are risks of groundwater contamination.

Equally, in assessing the potential for tourism development, information on the state of the environment, as well as the nature and amount of existing and potential pollution sources, is essential both for an investor and public authorities responsible for the sustainable management of an area and its resources. The preparation of an environmental assessment helps to identify and assess the physical, biological and social-economic impacts of a development proposal and the safeguards required.

Third, on the basis of priorities and resource availability, steps should be taken to promote **medium-longer term consolidation** and expansion of environmental information systems. Attention should concentrate primarily on environmental conditions and trends. Opportunities to develop an environmentally favourable approach to economic restructuring also should be sought. Information on recycling opportunities, energy-efficient plant and process operations and the cost-benefit of pollution prevention and control is vital if plant managers are to change past practices. To date, much of this information has not reached such managers. More generally, there is opportunity for environmental information to strengthen **sector policy integration** efforts, especially in the priority energy sector. Objective, credible information can support dialogue between, and co-ordinated policy actions by, environment and sectoral ministries. The Polish National Environmental Plan adopted by the Government is an example of how environmental considerations can be brought to the attention of sectoral policy-makers.

The **redesign of environmental information systems** in these countries requires a framework with **clear objectives and a strategy for implementation and performance evaluation**. The challenge is to redesign existing systems; upgrading the quality of present arrangements; where necessary, eliminating or re-assigning elements which do not meet users' needs or which are not cost-effective; and progressively filling in the most important gaps.

Several weaknesses in the **coverage of existing environmental information systems** are apparent. Some of these weaknesses are also evident in various OECD countries (see OECD, 1991 e). At the overall system level, the principal weakness in the reviewed countries is a lack of a comprehensive and integrated information system linked spatially (across ecoregions) and temporally. Data weaknesses are also identifiable: poor coverage of biological indicators of water quality, and water pollution in rivers by phosphorous and heavy metal levels in lakes; limited data on marine pollutants originating from the coast; little data on pesticide use on arable and crop land; gaps in air quality data concerning estimates of national carbon monoxide and hydrocarbon emissions, lead emissions, CFC usage and urban air quality; data on population exposure to noise from traffic, airports and other sources is deficient; wastewater treatment information is lacking concerning the numbers of population connected to sewage schemes, capacity of treatment systems and degree of treatment prior to disposal; and solid waste and hazardous waste data are weak in terms of specifying volumes and sources (household, industrial, construction sites etc).

Once the framework and priority elements of the environmental information system have been established, attention should focus on the methods used to collect information. Explicit criteria to guide the **choice of data collection methods and technologies** should be specified. Such criteria include cost-effectiveness, flexibility for future modification and extension, ability to deliver essential and reliable information on priority environmental issues to decision-makers, and ability to harmonise with international standards and classifications. The tendency for state-of-the-art technology to "drive" environmental information systems should be firmly resisted.

**Existing approaches to data collection** and environmental monitoring need to be improved, particularly integrated monitoring systems. In Poland, for example, about 90% of environmental data is collected by means of questionnaires and only 10% by monitoring. In both Hungary and CSFR, monitoring plays a more important role. However, the extension of monitoring networks is a priority task in all of the reviewed countries. There is an urgent need to improve the compatibility, comparability, reliability and accessibility of data by linking various sectoral networks and to slowly extend their spatial coverage. Critical issues requiring attention include the number and distribution of monitoring sites, the balance between ambient and point source monitoring and the reliability of the data generated by monitoring stations. Complementing this effort, sample surveys should replace more costly census methods for preparing state of the environment reports. This will require training of statisticians in sample survey techniques.

The potential for cross-media and multiple exposure monitoring should be assessed. Such monitoring can clarify trans-media movement of pollutants and their synergistic effects on environmental quality and human health. Biological monitoring, such as for effluent discharge monitoring, can often be applied more easily than physical-chemical monitoring and at much less cost. Other possibilities for data collection and monitoring include the use of environmental audits of firms' performance and independent monitoring by enterprises and research institutes.

## **1.1 Institutional Arrangements and Decision-making**

In the past the key institutions for collecting information were central statistical offices. They had a pivotal role in deciding what, by whom and how information would be collected. This situation has changed.

In all three countries efforts are underway to reduce the pre-eminence of the **central statistical offices** in influencing the collection of information. Blades (1991) notes that in the past the principal function of these offices was to monitor the central plans and enterprise performance against prescribed targets. This auditing role had implications for the data collection methods used and the range of statistics collected: selective types of data were published, there was a reliance on questionnaire methods to collect data, unwelcome statistics were suppressed and data were at times presented in uninformative or misleading ways.

One implication of the transition process is the on-going transfer of some responsibilities for producing environmental information from statistical offices to **environment ministries**. In Hungary, for example, the role of the Central Statistical Office was reduced by the transfer of responsibility for environmental information to the Ministry of Environment and Regional Policy. Currently, the environmental statistics unit within the Statistical Office is very small. In Poland, the Central Statistical Office previously played the leading role in information collection through its responsibilities for supporting the preparation of central plans and for co-ordinating all statistical surveys. Today, the State Inspectorate for Environmental Protection (PIOS) is responsible for both enforcement of environmental laws and the development of a nation-wide environmental monitoring system. In time, PIOS will probably have the dominant role in collecting environmental information. The Czech Republic created a Centre for

Environmental Information, responsible for co-ordinating and collecting environmental information for the Czech Ministry of the Environment. In the Slovak Republic, the Hydrometeorological Institute undertakes a similar role.

Thus, environment ministries are emerging as key actors in developing and implementing environmental information systems. Annex I shows the institutional arrangements for environmental information gathering in Hungary and Poland.

Statistical offices will continue to have important roles to play, including co-ordinating the collection of data by various government departments, integrating the national environmental monitoring system with the national statistical system, reinforcing consistent use of internationally-agreed definitions and terminology and meeting specific information requests. These new responsibilities need to be clearly distinguished from those of environment ministries.

The various sector agencies collecting environmental information require a framework for the **co-ordination of information flows** within and between ministries. This is essential if environment and sectoral policies are to be better integrated. Ministries of health and social affairs, agriculture, forestry, transport, water management, energy, and industry and trade may all be collecting environmental information for their specific sectors. This may also create problems of administration, duplication and non-sharing of information. In Hungary, for example, disquiet has been expressed by the Ministry of Industry and Trade about the quality and relevance of environmental information available from the Ministry of Environment. One consequence is that the Ministry of Industry and Trade now uses its own sources to obtain key types of environmental information to assist its policy-making.

**Decentralisation** of power is an integral part of democratisation in central and eastern European countries. As a result, debates about centralisation versus decentralisation of environmental management are emerging, often centred around the appropriate mix of decision-making powers between different levels of government. Ensuring that local needs are balanced against national needs in a coherent, comprehensive environmental information system is a particular concern. For example, in Poland there have been debates about the establishment of a centralised environmental information system managed by PIOS in the context of a decentralised environmental management system.

Redesigning environmental information systems also involves extensive training and extension of the existing skills base. In general, there exists a relatively **highly educated workforce** with technical skills in natural resource conservation and environmental science and technology, the so-called "hard sciences" (Martin, 1992). Nevertheless, monitoring personnel do not always have appropriate training, guidance or support. Bi-lateral and multi-lateral agency training efforts in capacity building, environmental impact assessment (EIA), and air and water quality monitoring techniques are extending existing technical skills. There is also a need, however, to develop multi-disciplinary skills in natural resource policy analysis, integrative approaches for sustainable development and environmental administration. The need for training and support is particularly acute at the sub-national level.

## **1.2 New Partners and New Relationships**

**Research institutes** play an important role in the collection of environmental data. These institutes were well supported in the past and were usually attached to specific ministries. As a result, staff are often well trained, motivated and have good contacts with international scientific networks. Pressure to reduce government expenditure is resulting in a requirement for many of the institutes to become self-financing and to engage in short-term, contract work. While this may improve efficiency and link institute activities more closely with practical needs, it may also have negative impacts. An exclusive emphasis on short-term work could undermine the ability to undertake quality, independent scientific research and encourage

emigration of high level staff. Moreover, there may not be markets for environmental information required for public policy purposes. Where research institutes have a demonstrated capacity to generate quality environmental information, governments should continue to provide support at an adequate level. The relationship between research institutes and "parent" ministries may need to be examined to ensure that technical and policy functions are clearly delineated. Multilateral and bilateral programmes could also provide support by working, where appropriate, with research institutes.

Possibilities for **privatising** a number of research institutes are being considered. Two fundamental requirements are to define privatisation and to establish the economic rationale for privatising environmental information. There needs to be a clear distinction between, first, general and basic activities, which need to be financed by the public sector; and second, more applied and user specific activities, which can be provided by the information market.

The redesign of environmental information systems must take place within the perspective of their **costs and benefits**. Implementing the **polluter-pays principle (PPP)** to "internalize" the costs of use, or degradation, of environmental resources is the cost-allocation principle adopted in OECD countries and, increasingly, in central and eastern European countries. In theory, the polluters should pay the full cost of damages caused by their activities. This would create an incentive to reduce such damage, at least to the level where the cost of pollution reduction is equal to the marginal cost of the damage caused by such pollution (OECD, 1992). In practice, it is frequently very difficult to determine and apply such costs and polluters are often made to pay for the cost of pollution control.

Where monitoring activities can be clearly related to specific polluting activities, the PPP suggests that the cost of monitoring should be borne by the polluter. This will be the case for emissions from large stationary sources. Regulations could be enacted which require firms to disclose emissions data. However, there are many cases where this is not feasible, such as when the polluter is not identifiable, the polluter firm has disappeared or is small. Reviews of practices in OECD countries show that monitoring of ambient environmental conditions generally is financed by public sources.

The allocation of expenses between **central agencies or ministries and local authorities' budgets** is often made according to the division of responsibilities. Some transfer of resources from the national budget to local authorities may be justified when the latter carry out national responsibilities locally, such as operating part of an environmental monitoring network. The manner in which money from public budgets is allocated to different national environmental programmes (air, water resources management, fauna and flora, etc) should be consistent with environmental policy priorities. Sufficient funding should be made available within those different programmes for monitoring work at the field and policy levels.

**External assistance** from bilateral and multilateral sources to develop and extend environmental information systems has been important. Such support can only provide a fraction of the resources required, but is nevertheless important because of the transfer of experience, their demonstration effect and the provision of models which can be adapted as appropriate. Activities include establishing model air and water quality monitoring systems in the most severely polluted regions, assistance in setting up and using environmental data bases, equipping regional laboratories, promoting staff secondments to work in OECD Member countries and international organisations, and funding participation by country representatives at international meetings. Generally, the greatest needs appear to be for technical assistance, training and exchanges of personnel, especially at the local level.

In redesigning environmental information systems, opportunities exist for establishing **partnerships between the public and private sectors** to meet information supply needs. For example, enterprises could collect environmental information in accordance with government-specified guidelines and standards, and subject to verification procedures. Opportunity would then exist for enterprises to choose whether to collect

the information using in-house specialists or to contract the work out to private research institutes or consultancies. Other possibilities for information collection include co-operative arrangements between government and NGOs, labour groups and the scientific community. This could be a cost-effective and efficient way to obtain and disseminate environmental information, as well as reducing the financial burden for governmental administrative and statistical offices.

The emergence of distinct public and private sectors requires **new institutional arrangements** to ensure that governments have **access to the information** which they require for policy purposes and that the **rights of private enterprises and individuals** are adequately protected. In a more market-oriented economy, enterprises may be reluctant to supply information to public bodies because of commercial confidentiality and cost. Principles of confidentiality must be well defined, usually reinforced by appropriate legislation, with guaranteed protection of information on individual survey forms. Public authorities for their part will need to be clear as to what types of information they require and why, ensure that cost-effective approaches are used which minimise reporting burdens on the private sector, and develop appropriate information dissemination strategies which take account of confidentiality concerns. For all groups involved, this is very much a new experience.

Participating in **international co-operative efforts** in environmental information collection and dissemination is an integral part of system design. The significance of such co-operation derives from three principal reasons. First, the transboundary nature of some pollution problems highlights the importance of having a well developed domestic monitoring system linked to international monitoring systems and which enable meaningful comparisons of information to be made. Second, in order to survey compliance of countries signatory to international conventions and agreements, comparable information must be collected on an international scale. Third, links to international information systems provide countries with an opportunity to co-operate in developing cost-effective technical, institutional and financial approaches to problems. Regional activities, often co-funded bilaterally or by international institutions, are already evident and provide a solid base for extension.

All of the reviewed countries are actively increasing their involvement and links with the international environmental information "community". For example, they have participated in the work carried out by UN-ECE to standardise definitions and classifications, contributed to EMEP work on long range transboundary air pollution in Europe, and strengthened links with the Commission of European Communities and OECD. These efforts should continue.

Efforts to further integrate the environmental information systems of these countries into the larger international framework could focus on several initiatives. First, the development of regional information networks would help reduce duplication, enable information to be collected and compared on the basis of harmonised methodologies, and provide opportunity for staff secondment to broaden experience and skills. For example, Polish participation in the work of the Helsinki Commission concerning control of pollution of the Baltic Sea is a catalyst to work toward harmonised monitoring schemes.

Second, because international comparisons of environmental information rely on the availability of high quality data inputs, there is a responsibility to strengthen domestic capabilities in, and co-ordination of, information collection, treatment and dissemination. For example, in Hungary environmental information systems are in a state of flux associated with administrative re-organisation. The task of gathering environmental information is undertaken by numerous government ministries and research institutes rather than a specific environmental section or ministry. This makes it difficult and time consuming to identify the appropriate organisation to send inquiries to. Where data are to be supplied on a regular basis, a single permanent contact point should be established. Some sharing of responsibilities between environment ministries and central statistical offices is necessary, and the division of labour should

be clear. This would avoid duplication of effort and reduce the confusion at international level resulting from having different sets of data originating in one country.

### **1.3 Diffusion of Environmental Information**

In the past environmental information was characterised by its secrecy and the highly selective presentation of statistics and supporting analyses. Consequently, public awareness and understanding of environmental problems is very limited. In comparison, in OECD countries the wide availability of information has helped raise public awareness of environmental issues and enabled the public and interest groups to accumulate significant experience and skill in using it to influence policy-making. This provides optimism for a similar development in the reviewed countries. As in OECD countries, this change is likely to occur gradually over a period of time.

Public access to information concerning the environment was formerly very limited. Until recently, information on environmental conditions and trends was not readily available. Thus, despite concerns about the quality and comparability of environmental information that is presently available from central and eastern European countries, the diligence of various statisticians and scientists to gather, record and archive that information under, at times, difficult professional conditions must be acknowledged. Without their commitment, knowledge of the scope and severity of environmental problems would be much the poorer.

Fortunately, the situation is now changing. The transition process has freed information access, which creates new demands and opportunities. At the same time it can be a difficult adjustment for at least two reasons. First, a lengthy period of restricted or non-access to information diminishes one of the critical conditions necessary for informed public debate on environmental conditions. Consequently, public interest in, and discussion of, environmental information is often weak. Second, the long-standing doubt and cynicism about the veracity of official information that was made available in the past represents a formidable attitudinal barrier to be overcome.

Thus, it should not be surprising that the public, NGOs, unions and others are today much weaker than their western counterparts in accessing and using environmental information, and are taking tentative steps in these directions. Programmes aimed at improving public and NGO access to environmental information are particularly valuable components of external assistance efforts.

The provision of environmental information and its wide dissemination needs to be seen as a major initiative in its own right, and as one of the objectives guiding the design of environmental information systems. However, the diffusion of environmental information by itself is not sufficient. It needs to be accompanied by wider programmes that foster public environmental awareness and education. Private sector groups, NGOs, trade unions and professional bodies should also be encouraged to contribute to this broader goal.

In practical terms this means producing regular state of the environment reports, an activity which has commenced in all three countries; developing environmental indicators; using multi-media communication techniques to reach a wide audience range; preparing "user friendly", summary-type brochures on specific resources and their management (the brochure produced by the Polish Forestry Research Institute on its work and on the state of Poland's forests provides one example); promoting information-sharing arrangements with key groups, such as professional bodies, business, NGOs and labour unions; establishing wide-ranging environmental education programmes for the public and in schools; and providing environmental information/fact sheets, perhaps organised according to regions, targeted at specific types of investors (tourism, forestry, mining, energy, etc).

## REFERENCES AND BIBLIOGRAPHY

- Blades, D. (1991): "The Statistical Revolution in Central and Eastern Europe" in The OECD Observer 170 (June/July 1991): 13 - 16.
- Central Statistical Office of Poland (1991): *Ochrona Srodowiska 1991 (State of the Environment Report: Poland)*, Warsaw.
- Czech Academy of Sciences and Federal Committee for the Environment (1992): *National Report of the CSFR for UNCED*.
- Federal Committee for the Environment, CSFR (1991): *Strategy to Care for the Environment in Czechoslovakia*.
- Federal Committee for the Environment, CSFR (1992): *State of the Environment in Czechoslovakia*.
- Federal Statistical Office of CSFR: *Experience in the Field of Statistical Monitoring of the Occurrence and Recycling of Waste and Secondary Raw Materials*. Unpublished Report.
- Government of the Hungarian Republic (1991): *Hungary's National Report to UNCED*. Budapest.
- Institute for Environmental Management (1990): *State of the Environment in Hungary and Environmental Policy 1989*. Bulla, M. (ed.). Budapest.
- Martin, G.S. (1992): *Survey and Analysis of Environmental Management Training Programmes in Central and Eastern Europe sponsored by External Actors*. Interim Report. International Academy for the Environment and the International Labour Office. Geneva.
- Ministry of Environment Protection, Natural Resources and Forestry (1991): *Problems of Water Protection in Poland*. Warsaw.
- OECD (1988): *Environmental Monitoring*. Environment Directorate Monograph No. 16 May 1988. Paris.
- OECD (1991a): *Environmental Information Systems in the CSFR - An OECD Assessment*. Unpublished Report, Environment Directorate. Paris.
- OECD (1991b): *Environmental Information Systems in Hungary - An OECD Assessment*. Unpublished Report, Environment Directorate. Paris.
- OECD (1991c): *Environmental Information Systems in Poland - An OECD Assessment*. Unpublished Report, Environment Directorate. Paris.
- OECD (1991d): *Review of Environmental Information Systems in Hungary, Poland and the CSFR - Summary Report*. Unpublished Report, Environment Directorate. Paris.
- OECD (1991e): *The State of the Environment*. Paris.
- OECD (1992): *Environment and Economics: A Survey of OECD Work*. Paris.

## **ANNEX I**

### **Institutional Arrangements for Environmental Information Gathering in Hungary**



## **The Environmental Monitoring System in Poland**

## **PART II**

### **Environmental Indicators**

#### **2.0 Introduction**

In 1991 the OECD published a preliminary set of environmental indicators. Sets of indicators are series selected from a larger database and have a synthetic meaning and specific purpose. There is no universal set of environmental indicators; rather, there are sets of indicators responding to specific conceptual frameworks and purposes.

This part of the report presents selected environmental indicators based on the responses of the countries to the 1992 OECD Environmental Data Questionnaire. This is the first time that such information has been obtained in a manner consistent with that for OECD Member countries. The work of the respective authorities to compile data in response to the Questionnaire is gratefully acknowledged.

The questionnaire obtained data based on national aggregates. The raw data was systematically treated by the OECD Secretariat, and checked with the relevant national authorities of each contributing country. This has enabled quality assurance of data and a critical assessment of conclusions.

Caution must be exercised in using the indicators presented here. First, strict comparisons with data of OECD countries are not valid since classifications, definitions and standards are probably different. Second, the quality, accuracy, coverage and historical record of data in the reviewed countries is highly variable.

Despite these qualifications, the indicators do not support the picture of generalised eco-catastrophe promulgated in some press reports. This is not to deny the seriousness of environmental damage; the gravity of local and regional "hot spots" is undeniable. The indicators show, however, that the situation is not uniformly bad everywhere. Indeed, for some indicators the situation is similar to that of OECD averages.

#### **2.1 Environmental Indicators**

The following pages present the selected environmental indicators.

