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ENVIRONMENTAL REPORTING IN NEW INDEPENDENT STATES (NIS)

Revised review submitted by Eco-Accord Centre

Introduction

Regular development and provision of environmental reporting should become a decisive step for addressing NIS environmental problems. These activities necessitate integrated efforts of different ministries, agencies, facilities and non-governmental organisations. This document attempts to analyse environmental reporting in NIS, focusing at the process of development of Governmental State of Environment Reports (referred hereinafter to as SoE reports). In the course of development of the survey, the authors tried to answer the following key questions:

I. Legal base

Description of legislative requirements to the reporting, including its coverage (issues covered), reporting periods (annual, biannual, ad hoc, etc.) of SoE reports, allocation of functions, associated with development of SoE reports, target audiences (executive bodies, parliaments (legislative bodies), research facilities, the general public) and other aspects.

II. Brief historic background

When was SoE reports' development initiated?

How many SoE reports have been already published?

III. Institutional framework

What ministry (department) is responsible for development of SoE reports?

What federal/regional bodies (environmental authorities and other bodies) and other organisations (including academic community and NGOs) are regularly contributing to SoE reports?

Was a network of experts/authors, responsible for development of separate charters of SoE reports, established?

Is there an advisory/co-ordination body in charge of development of SoE reports?

Are draft SoE reports to be approved by persons, who contributed into their development?

What finance/staff resources are necessary for development of SoE reports?

Are materials of SoE reports submitted in electronic format (e.g. floppy-disks, e-mail, Internet)?

Do agencies in charge of development of SoE reports have access to databases of entities and institutions, that contribute their information?

Has an agency in charge of development of SoE reports already developed its own computerised database for report-development purposes?

IV. Coverage and development

Do SoE reports cover the following issues:

1. *Environmental quality*, including:

- Air emissions;
- Ambient air quality;
- Inland surface water bodies and groundwater (quantity and quality);
- Marine environment and coastal areas;
- Land and soil pollution;
- Chemicals;
- Industrial accidents;
- Waste generation, treatment and storage;
- Biodiversity, protected natural territories, extinct and endangered species;
- Urban environment;
- Health and environment.

2. *Environmental pressures*

- Power industry;
- Transport;
- Industry;
- Agriculture;
- Forestry;
- Fisheries;
- Tourism;
- Other economic sectors

3. *Environmental policy measures*

- Pollution abatement and control;
- Economic instruments;
- Environmental expenditure, including foreign assistance;
- Co-operations with regional/local authorities;
- Involvement of environmental NGOs and other major groups;
- Environmental education;
- Environmental R&D works;
- International co-operation.

4. *Other issues*

What body is authorised to decide on matters of SoE reports' structure? What ministry/agency is responsible?

How the structure of SoE reports reflects governmental environmental priorities? How did it evolve with time? What were the reasons of these structural changes?

Do the structure and contents of SoE reports allow one to assess progress of implementation of governmental environmental action plans/programs and their compliance with international environmental commitments?

V. Indicators

What indicators are used in the above four sections?

VI. Time coverage

What is the time coverage of SoE reports (e.g. one year, two years, five years)? Do SoE reports provide analysis for more long periods of time (e.g. from 1991 to a reporting year)?

Are environmental modelling and environmental forecasts used for data extrapolation?

VII. User's convenience

To what extent, graphics and other modern tools (e.g. maps) are used to visualise data and indicators?

Are the above visualisation tools accompanied by explanations, analysis and interpretation (if "yes" - how)?

VIII. Publishing media

Are SoE reports published as paper documents? If "yes" - how many copies are printed?

Were there any design efforts to make printed SoE reports more user-friendly?

Are there CD-ROM versions of SoE reports? If "yes", how many copies are produced?

Are SoE reports posted in the Internet?

IX. Language(s) of publication

Are SoE reports printed in the national language only, or other language versions of these reports (summaries) are also available (e.g. English versions)?

X. Application of SoE reports for policy making purposes

Are SoE report past-oriented or future-oriented?

Do SoE reports contain brief summaries, conclusions and recommendations. If "yes", what policy or decision-making bodies are intended to be the target audience of these summaries (e.g. the board of senior officials of the Ministry for Environment/Natural Resources, the Cabinet of Ministers, the Parliament, the Inter-ministerial Commission)? Did these bodies make relevant political decisions, if "yes" - what specific decisions did they make?

XI. Public access

Are SoE reports (or their summaries) disseminated among journalists, mass media outlets, schools, etc.? Are SoE reports accessible for the general public? If "yes", are SoE reports accessible free of charge or members of the public should pay for the access? Are there summary publications, developed at the base of SoE reports (e.g. newsletters, data booklets, topical brochures or leaflets)? Are SoE reports discussed with involvement of environmental NGOs and other major groups?

XII. Other environmental reports

Are there other periodical printed reports in the country, dedicated to sustainable development, environmental indicators, statistical yearbooks, topical reports (e.g. monitoring newsletters, water quality maps) or sectoral reports (e.g. health and environment), covering environmental quality issues?

Information collection works were mainly carried out with involvement of members of Environmental Monitoring Working Group of UN ECE. Many of them provided detailed information about development of governmental SoE reports in their countries, environmental quality and other environmental reports and documents.

Besides that, we used data, provided by GRID-Arendal (this international organisation has valuable experience of co-operation with NIS in development of SoE reports), European Environmental Agency and OECD.

In the course of development of the survey, the authors came to the conclusion that governmental statistical reports represent the most well-developed form of environmental reporting in NIS. All countries of the former USSR publish these reports, using different formats.

However, development of SoE reports is prone to serious difficulties, mainly associated with:

- difficulties of data collection, analysis and interpretation;
- difficulties of inter-ministerial co-ordination in the course of development of materials for SoE reports;
- underdeveloped legislative base for development of SoE reports;
- identification of clear aims of SoE reports and their structure;
- establishment of procedures for development of SoE reports, that would define:
 - institutional framework of SoE reports;
 - topical coverage;
 - indicators;
 - time coverage;
 - use of SoE reports for development of environmental policies;
 - convenience of use of SoE reports, and public access to these reports;
 - media of publication;
 - language(s) of publication;

- other provisions, associated with geographic, climate, economic and other specific features of a country, that influence environmental situation in the country and regions of the country.
- inadequate financing;
- identification of target audiences of SoE reports and their eventual end users;
- insufficiently clear procedures of dissemination of SoE reports;
- insufficient public participation in discussions on SoE reports' contents;
- lack of NIS experts with experience of development of electronic versions of printed documents;
- difficulties of selection of core sets of indicators and priority indicators for assessment of environmental quality.

In order to address the above problems, recommendations were developed, based on outcomes of the survey. These recommendations are intended to improve development of governmental SoE reports in NIS, that, in its turn, is necessary for implementation of specific actions for improvement of environmental quality and human health. After detailed discussion, the recommendations will be published and presented at Environment for Europe Ministerial Conference (Kiev, May 2003).

I. Environmental Reporting in NIS: Summary Notes

Preliminary analysis of environmental reporting in NIS allows to make the following conclusions:

A. In general, in the course of development of national SoE reports and other environmental reports, NIS follow national environmental legislation.

For example, in Azerbaijan, national SoE reports are developed in compliance with the following laws of the country, namely:

- Law on Sanitary and Epidemiological Well-being of the Population (1992);
- Law on Public Health (1997);
- Law on Status of the Water Code (1997);
- Law on Status of the Forest Code (1997);
- Law on Radiological Safety of the Population (1997);
- Law on Hydrometeorological Activities (1998);
- Law on Industrial and Domestic Waste (1998);
- Law on Animals (1998);
- Law on Environmental Security (1999);
- Law on Environmental Protection (1998);

Environmental policies of Armenia are based on the following key legislative acts:

- Law of the Republic of Armenia on Wildlife Protection and Use;
- Principles of Environmental Legislation of the Republic of Armenia;
- Law of the Republic of Armenia on Environmental Impacts;
- The Water Code of the Republic of Armenia;
- The Land Code of the Republic of Armenia;
- The Forest Code of the Republic of Armenia;

However, there are no legislative acts in Armenia of relevance to contents and structure of SoE reports.

Key legislative acts of the Republic of Belarus in the sphere of environmental protection and natural resources use incorporate the following ones:

- The Constitution of the Republic of Belarus (articles 34, 46, 55) of 15.03.1994, as amended on November 24, 1996;
- The Concept of the National Environmental Policy of the Republic of Belarus, approved by the Supreme Council of the Republic of Belarus of 06.09.1995;
- Laws of the Republic of Belarus:
 - "On Environmental Protection" (26.11.1992);
 - "On State Environmental Expert Assessments" (18.06.1993);
 - "On Specially Protected Natural Territories and Sites" (20.10.1994);
 - "On the Tax on Use of Natural Resources (the Environmental Tax)" (23.12.1991);
 - "On Production and Consumption Waste" (25.11.1993);
 - "On Fauna Protection and Use" (19.09.1996);
 - "On Air Protection" (15.04.1997);
 - The Land Code of the Republic of Belarus (04.01.1999).;
 - The Water Code of the Republic of Belarus (15.07.1998);
 - The Mineral Resources Code of the Republic of Belarus (15.12.1997);
 - The Forest Code of the Republic of Belarus (21.06.1979).

According to Law of Georgia on Environmental Protection, "Rules of Completion of the National State of Environment Report" were approved by Decree No. 389 of the President of Georgia of June 25, 1999. The Rules regulate legal arrangements, associated with development of the National Report, its submission to the President of Georgia and ensure public access to the report by means of its publishing.

In the Russian Federation, the legal base of comprehensive periodical governmental reporting on state of environment was established by Decree No. 51-rp of the President of the Russian Federation of October 7, 1991 and Law of the Russian Federation on Environmental Protection of December 19, 1991. These documents stipulate, that the Government of the Russian Federation is responsible for development of annual governmental SoE reports.

Decree No. 53 of the Government of the Russian Federation of January 24, 1993 (On Procedures of Development and Dissemination of the Annual Governmental State of Environment Reports) established procedures for development and dissemination of annual SoE reports and instructed ministries and agencies of the Russian Federation, central executive bodies to submit timely necessary materials for development of these reports to the Ministry of Environment.

In clause 1 of the Annex to Decree of 24.01.1993, the Government of the Russian Federation established that the annual governmental SoE report of the Russian Federation is an official document, developed in order to provide to the governmental bodies and the population of Russia objective, systematised analytical information on: environmental quality, status of natural resources and trends of their change under impacts of human activities, implementation of legal, institutional, technical and economic measures at the territory of Russia for environmental protection, conservation and restoration of natural resources. The same document stresses that annual governmental SoE reports of the Russian Federation should provide the framework for review of environmental priorities and development of programs, dedicated to environmental improvements in the Russian Federation.

Clause 2 of the Annex specifies the range of assessments, that should be done at the base of analysis of environmental quality:

- Assessment of state of natural resources, major ecosystems, specially protected natural territories;
- Assessment of trends of their change under impacts of economic activities, industrial accidents and natural disasters;
- Assessment of severity of regional and transboundary environmental problems, governmental actions for regulation of natural resources use and assessment of their efficiency in the course of transition to a market economy;
- Assessment of specific issues of environmental monitoring, relevant R&D works, environmental education, awareness raising activities, non-governmental environmental movements, efficiency of international co-operation.

The Annex specifies, that SoE reports should provide recommendations for implementation of institutional, legal and economic measures for environmental protection and rational use of natural resources, based on analytical materials of SoE reports.

Clause 3 of the Annex specifies, the SoE reports should be based on official governmental statistics and reporting, registers of environmental media and monitoring data, other information materials as well as analytical documents of ministries and agencies.

In Turkmenistan, the range of major documents, that regulate socio-economic and environmental legal relations, incorporate the following ones: laws "On Environmental Protection" (1991), "On Tightening Sanctions for Environmental Offences" (1991), "On State Specially Protected Territories" (1992), "On Mineral Resources" (1992), "On State Environmental Expert Assessments" (1995), "On Air Protection" (1996). These laws stipulate a number of environmental protection activities, including environmental reporting.

In Ukraine, annual governmental SoE reports are published according to Article 25 (Provision of Information on State of Environment) of Law of Ukraine on Environmental Protection of 26.06.1991. The Ministry for Environment and Natural Resources of Ukraine is obliged to submit SoE reports annually to the Parliament - the Supreme Council of Ukraine. Procedures for provision of information and terms of submission of SoE reports to the Supreme Council of Ukraine (by July 1 of the next year after a reporting year) are stipulated by decrees of the Cabinet of Ministers of Ukraine No. 61 07.02.1992 and No. 337 of 07.05.1993. Besides that, these governmental decrees established personal composition of the inter-ministerial commission for development of SoE reports, chaired by the Minister of Environment and Natural Resources of Ukraine. Other commission members (overall, there are 14 members of the commission) include ministers, deputy ministers, chairpersons of state committees, representatives of academies of sciences.

B. Some NIS do not publish national SoE reports regularly.

This is true for Azerbaijan, Armenia, Turkmenistan.

At the same time, Kyrgyzstan, Moldova, Tadjikistan, the Russian Federation, Uzbekistan and Ukraine publish regular national SoE reports. For example, Tadjikistan initiated development of national SoE reports in 1989. Since that time, 12 SoE reports were published.

In Georgia, 2 SoE reports were published since 1989 (in 1989 and 1994). The national report of 1999-2000 is in process of publication now.

In Kazakhstan, 5 national SoE reports were published since 1991.

C. Some NIS have not established yet networks of experts, responsible for development of specific chapters of SoE reports.

For example, Georgia has not yet established a network of experts for development of national SoE reports. Individual chapters of these reports are developed only by staff-members of the Ministry for Environment and Natural Resources and personnel of the Institute of Environmental Protection.

The Expert Centre was established under the Ministry for Natural Resources and Environment of Kazakhstan, but the Centre merely formally reviews and approves SoE reports. There are no separate co-ordinating bodies.

In Azerbaijan, the Ministry for Environment is responsible for development of SoE reports. Besides that, the following entities also contribute to development of SoE reports:

- The National Academy of Sciences;
- The State Committee for Environment;
- The Public Health Ministry;
- The State Committee for Geology and Mineral Resources;
- The State Committee for Hydrometeorology;
- "Azenergy" Company;
- The State Committee for Supervision of Industrial Safety and Mining;
- The State Committee for Statistics;
- The Ministry of Economy;
- The State Land Committee;
- The Committee for Irrigation and Water Management;
- State-run company "Azerkhimia";
- The State Oil Company;
- State Company "Metallurgy";
- The Environmental Section of Oil and Chemistry Department of the Administration of the Cabinet of Ministers.

Azerbaijan has established the network of experts, dealing with development of SoE reports, collection and analysis of information materials.

A similar network of experts operates in Tadjikistan. There are several organisations that regularly contribute into development of SoE reports, including the State Committee for Statistics, the Academy of Sciences, the State Land Committee, the Geology Directorate, the Ministry of Water Management, the Ministry of Agriculture, sectoral institutes.

In Kyrgyzstan, development of SoE reports belongs to the sphere of competence of the Section for Information and Analytical Support and Environmental Education of the Directorate for Environmental Strategy and Policy of the Department for Environment and Monitoring of the

Ministry for Environment and Emergency Response of the Kyrgyz Republic. Besides that, the following entities also contribute into development of SoE reports:

1. The National Committee for Statistics;
2. The Public Health Ministry;
3. The Department of State Sanitary and Epidemiological Supervision;
4. Bishkek City Sanitary and Epidemiological Facility;
5. The Ministry for Agriculture, Water Management and Processing Industries;
6. The Department for Water Management;
7. The Department of Chemicals' Use and Plant Protection;
8. The Ministry for Environment and Emergency Response (structural units);
9. The Directorate for Hydrometeorology (Kyrgyz Hydromet);
10. The State Agency for Geology and Mineral Resources under the Government of Kyrgyzstan;
11. The State Agency for Registration of Real Estate Rights (the State Register);
12. The State Forestry Service;
13. "Kyrgyzenergo" JS Company;
14. "Kyrgyzaltyn" JS Company.
15. The Institute of Water Problems and Hydropower of the National Academy of Sciences of Kyrgyzstan;
16. Research and Engineering Centre "Geopribor" of the National Academy of Sciences of Kyrgyzstan;
17. Road Transport Chair of I. Razakov Kyrgyz Technical University;
18. Youth Environmental Movement "Biom";
19. Non-governmental association "Centre of Environmental Information and Training", etc..

The network of experts and was established for development of SoE reports, as well as the information collection system. Draft reports are reviewed by invited experts of ministries and agencies.

In Moldova, SoE reports are developed by the Ministry for Environment, Construction and Territorial Development and the National Institute of Ecology. Besides that, other organisations and agencies, dealing with use of natural resources and environmental protection, contribute into development of SoE reports, as well as research facilities and non-governmental organisations. For development of separate chapters of SoE reports, the network of experts was established under the National Institute of Ecology. The network incorporates the advisory body and specialists of other organisations, who provide necessary information.

In Ukraine, all ministries and other central executive bodies, dealing with environmental issues, the National Academy of Sciences of Ukraine, institutes of the Academy and other research facilities and non-governmental environmental organisations contribute to development of SoE reports. The network of experts was established for development of separate chapters of SoE reports, however, in different years, some outside experts were also invited to participate in processing of information materials, submitted for incorporation into these reports. Development of SoE reports is co-ordinated by the Directorate for Environmental Monitoring of the State Hydrometeorological Service of the Ministry for Environment and Natural Resources of Ukraine.

In the Russian Federation, functions of development of SoE reports were delegated to the Ministry for Natural Resources of the Russian Federation. The Ministry develops SoE reports with participation of other relevant ministries, agencies, other governmental organisations and

the Russian Academy of Sciences, that supply necessary information, analytical materials and assessments, including forecasts and environmental security recommendations. The range of participants of the process of SoE reports' development incorporates ministries and agencies in charge of state control of natural resources use, environmental monitoring, state control of compliance with the due environmental and sanitary legislation, as well as other governmental bodies and organisations. Overall, from 35 to 39 federal ministries and agencies participate in development of SoE reports, as well as regional agencies in charge of environmental management and rational use of natural resources of 89 constituents of the Russian Federation, the Russian Academy of Sciences, the Russian Academy of Medical Sciences, the Russian Academy of Agriculture Sciences, several leading R&D institutes of ministries and agencies, JS companies "Norilsk Nickel", "Gazprom", "UPS of Russia", etc., "Profkurort" sanitary and recreational association, the Russian National Nature Conservation Society and other non-governmental environmental organisations. Every year, officials in charge of development of individual parts, chapters and sections of SoE reports are appointed (these appointments are to be agreed with organisations, they represent). These officials of relevant ministries, agencies and organisations are members of the inter-ministerial working group in charge of development of materials for annual SoE reports.

D. In some NIS draft SoE reports are not submitted for review to persons, who contributed into their development.

This is especially true for Azerbaijan, Armenia and Turkmenistan.

In Kazakhstan, SoE reports need to be formally approved by the Expert Centre under the Ministry for Natural Resources and Environment of Kazakhstan, however, if necessary, these reports can be also approved by a chief of relevant department.

At the same time, in Moldova, the Russian Federation, Kyrgyzstan, Tadjikistan and Ukraine, draft SoE reports need to be approved by experts, who participated in their development. For example, in the Russian Federation, draft SoE reports are reviewed at a meeting of the Board of Senior Officials of RF Ministry for Natural Resources with participation of representatives of relevant ministries, agencies, the Russian Academy of Sciences and NGOs. After approval by the Board, draft SoE reports are submitted to the Government of the Russian Federation for review and approval. After approval of SoE reports by the Government of the Russian Federation and submission of governmental instructions on dissemination of these reports, SoE reports are published and mailed to the President of Russia, RF Government, the State Duma, the upper chamber of the Parliament, federal ministries, agencies and organisations, that participated in development of SoE reports, administrations of constituents of the Russian Federation and mass media outlets.

In Georgia, draft SoE reports need to be agreed with relevant ministries and agencies. Usually, up to 50 specialists participate in development of SoE reports.

E. In almost all NIS, finance allocations for development of SoE reports are insufficient and do not allow to increase their circulation, publish versions of these reports in other languages or improve their design to make these documents more user-friendly.

In the Russian Federation and Ukraine, costs of development of national SoE reports are estimated to vary within the range from \$20,000 to \$23,000. These costs are mainly associated

with salaries (technical and expert processing of information materials, design and publishing works). However, the above allocations are not sufficient to improve design of SoE reports, increase their circulation or translate them into the English language. In the Russian Federation, the situation is further exaggerated by growth of volume of SoE reports (in recent years, the document's volume increased to 580 pages). Publishing of large reports entails additional finance difficulties.

In Georgia, lack of funds does not allow to use special design features for SoE reports. Armenia and Azerbaijan also encounter similar difficulties.

At the same time, Kazakhstan, Turkmenistan, Kyrgyzstan and Uzbekistan pay due attention to use of graphic materials and other modern printing technologies for printing of SoE reports - in particular, these countries use colour charts, diagrams and tables.

F. Some NIS are reluctant to use electronic information technologies for submission of materials for SoE reports. As a result, development of SoE reports is associated with additional difficulties.

This is especially true for Azerbaijan, Armenia and Turkmenistan.

In recent years, in Georgia and Kazakhstan, some information materials were submitted at floppy disks or via e-mail. Other information materials are still submitted as hardcopies.

Tadjikistan and Uzbekistan broadly use e-mail for submission of information materials for development of SoE reports.

In Moldova, in 4-5 recent years, information materials for SoE reports were submitted as electronic documents or via the Internet.

Similarly, in the Russian Federation, information materials for SoE reports are submitted in electronic format - mainly via e-mail or (rarely) at floppy-disks.

In Kyrgyzstan, until very recent time, information for SoE reports was mainly submitted as paper documents (due to non-existent e-mail services and lack of Internet access). Now, the situation improved and information materials are submitted also via electronic communication networks.

G. In some NIS, agencies in charge of development of SoE reports do not have their own databases for these purposes, besides that, they lack access to databases of other organisations and institutions, that submit information for incorporation into SoE reports.

This problem was resolved in Ukraine - the Ministry for Environment and Natural Resources (the co-ordinating body in charge of development of SoE reports) has access to databases of governmental bodies and institutions, that submit information for SoE reports. Besides that, the Ministry for Environment and Natural Resources has its own computerised database for purposes of development of SoE reports.

In Azerbaijan, the Ministry for Environment has access to databases of other governmental entities and institutes. Besides that, now the Ministry is developing its own database, dedicated to use for development of SoE reports.

In the Russian Federation, the co-ordination body in charge of development of SoE reports does not have access to databases of governmental bodies and institutes, that provide information for SoE reports. At the same time, the State Centre of Environmental Programs (the State Eco-Centre) has developed its own computerised database for purposes of development of SoE reports and processing of different reference summaries for other governmental bodies.

In Kazakhstan, all information materials for SoE reports are processed by specialists of the Ministry for Natural Resources and Environment. Information materials from other agencies can be requested only according to procedures of inter-agency subordination. The Ministry for Natural Resources and Environment has developed its own database, incorporating information, collected within 3 - 5 recent years. All other information materials exist only as paper documents. The Ministry lacks funds to transform paper documents into electronic format and incorporate them into the database.

In Tadjikistan, the Ministry for Environment, as the agency in charge of development of national SoE reports, was granted access to databases of other official bodies and institutes, that submit information for SoE reports, however, the Ministry has to pay for the access.

In Moldova, the Ministry for Environment, Construction and Territorial Development (the body in charge of development of SoE reports) lacks access to databases of official bodies and institutes, that contribute to development of SoE reports. These entities submit information only on request of the Ministry or the National Institute of Ecology. Now, the Ministry for Environment, Construction and Territorial Development has already developed its own database for development of SoE reports.

In Georgia, developers of SoE reports do not have access to databases of ministries, agencies, official bodies and institutions, that submit their information materials. However, the Institute of Environment is developing now its own database for purposes of development of SoE reports.

In Kyrgyzstan, the Ministry for Environment and Emergency Response (the ministry in charge of development of SoE reports) does not have access to databases of other agencies and organisations, that provide information for SoE reports. However, recently, the Directorate for Environmental Strategy and Policy initiated development of its own database for SoE reports.

The most complicated situation is observed in Armenia - the Statistical Directorate of Armenia (the agency, gathering information materials of other ministries) does not have its own database for purposes of development of SoE reports, moreover, the agency does not have access to databases of other agencies.

H. In many NIS, SoE reports are posted in the Internet or are available as electronic documents at CDs. These positive developments are mainly associated with support of GRID-Arendal. Specialists of GRID-Arendal provide training to officials of leading NIS ministries in charge of development of SoE reports. Besides that, GRID provides opportunities for NIS to post electronic versions of their SoE reports at GRID web-site. However, notwithstanding such support, Internet versions of SoE reports are not regularly updated.

In Azerbaijan, SoE reports are (partly) available in the Internet, and since 1998 are available as electronic documents at CDs.

In Armenia, SoE reports are available in the Internet also since 1998. It is a common project of the Ministry of Natural resources and Environment of Armenia and American University of Armenia.

In Belarus, key information on state of environment and trends of environmental quality is posted in the Internet.

Georgia do not publish SoE reports at CDs, however, the national reports are posted at web-site of the Institute of Environment <http://environmental.gol.ge>

In Kazakhstan, due to donor support, CD versions of SoE reports are published (circulation of CD reports is limited but it is sufficient for presentation purposes). Besides that, SoE reports are posted at web-site of the Ministry for Natural Resources and Environment.

In Ukraine, CD versions of SoE reports are published (mainly for distribution among major contributors of these reports). Since 2000, SoE reports are partly available in the Internet.

In the Russian Federation, SoE reports are available in the Internet, however, CD versions are not produced.

In Uzbekistan, SoE reports are available in the Internet and as documents at CDs.

I. Generally, only versions of SoE reports in national languages are published, so specialists from other countries and international organisations face difficulties in access to information on environmental quality. As a result, international organisations encounter some difficulties in development of recommendations on improvement of environmental quality in NIS.

For example, in Armenia, all materials on environmental quality are available only in the Armenian language.

In Azerbaijan, English and Russian versions of SoE reports are published.

Until very recent time, SoE reports in Kazakhstan were published in the Russian language only. Now, Kazakh version of the report is also published (with smaller circulation). If necessary and if donor support is available, SoE reports in other languages may also be produced.

In Kyrgyzstan, SoE reports are published in the official language only (the Russian language). Due to low funding, SoE reports are not translated into other languages.

In Moldova, detailed information on environmental quality and prospects of environmental management was published in 1995 in the National Strategic Environmental Action Program. English and Romanian versions of the baseline national report on environmental quality and environmental protection were published in 1998 with support of UN ECE experts (Republic of Moldova. Environmental Performance Review. UNECE, Geneva, 1998). In 1999, the group of NGO experts compiled and published Reference Compendium on Environmental Quality in the Romanian language, with finance support of the German Technical Assistance Association (GTZ).

In the Russian Federation, SoE reports are published in the official (Russian) language, however, summary versions of several SoE reports were published in the English language as well.

In Uzbekistan, national SoE reports are published in Russian and in English.

In Ukraine, SoE reports are published in the official (Ukrainian) language, however English versions of several SoE reports were also published (1995-96, 1998, 1999).

J. Circulation of printed SoE reports is too low to meet information demands of all interested organisations

This is true for almost all NIS. Due to finance constraints, the majority of NIS have to publish very limited number of copies of SoE reports, as a result, these reports are hardly accessible for the general public. SoE reports are mainly distributed between officials of ministries and agencies for their official use.

For example, in Kyrgyzstan, only 300 copies of SoE reports are published.

Situation in the Russian Federation seems to be the most favourable, in 1991 - 2001, annual SoE reports in the country were published with circulation of 1000 copies. If we account for reproduction of these reports in newspapers, their actual circulation would be several times higher. Besides that, SoE reports were published in "Zeleniy Mir" newspaper and "ECOS- Inform" magazine.

In Ukraine, circulation of printed versions of SoE reports reached 1000 copies in 1992-1999 and 1500 copies in 2000. 2000 copies of SoE report for 2001 will be published.

K. In some countries the general public lacks access to information of SoE reports.

These access difficulties are associated with:

- low circulation;
- insufficiently active dissemination of SoE reports by their developers and co-ordination bodies;
- large information arrays;
- complicated information presentation format;
- underestimated roles of the general public in the process of development of SoE reports;
- lack of PR skills.

In the majority of NIS, SoE reports are not efficiently disseminated via mass media outlets, as a result, the general public does not have adequate information on information materials of SoE reports. Some NIS do not publish summary publications (e.g. newsletter, booklets, topical brochures or leaflets) at the base of national reports. In some NIS, NGOs and representatives of other public groups are not involved into development and subsequent discussion of SoE reports.

In some NIS, it is necessary to pay for access to information of SoE reports, as a result, many NGOs and members of the general public cannot afford to get it.

Considering these developments, it is important to note, that 10 NIS have already signed and ratified Aarhus Convention on Access to Information, Public Participation in Decision-making

and Access to Justice on Matters of Environmental Significance. Due to the fact, that international legal acts prevail over national legislation, national commitments of these NIS under the Convention are of higher priority. Therefore, these 10 NIS are obliged to ensure public access to information of SoE reports in line with requirements of Aarhus convention.

At the same time, in Kazakhstan, information on development of SoE reports may be published in mass media outlets, but members of the general public cannot get the report itself free of charge. The country publishes summary newsletters, booklets, topical brochures and leaflets at the base of SoE reports, but these summary publications are published for specific events (e.g. presentations), instead of dissemination among members of the general public. Generally, SoE reports are not discussed with involvement of environmental NGOs and other major groups.

In Azerbaijan, public dissemination of SoE reports is limited.

In Georgia, 2 versions of SoE reports are published. The full version of the report is accompanied by its summary version (25 pages) designed for the general public. The latter version is disseminated by mass media outlets. The full version of the report is distributed among governmental agencies free of charge.

However, in Kyrgyzstan, the national report is accessible for all interested parties. Copies of the report are provided free of charge to experts, ministries, agencies, NGOs, schools, higher education facilities (in the course of presentations and other meetings).

In Armenia, PR Department was established under the Monitoring Centre of the Ministry for Environment. The Department is responsible for dissemination of environmental quality information among the mass media outlets and the general public. However, available information from other sources suggests that the Department does not operate efficiently.

In Moldova, due to lack of opportunities to publish SoE reports annually, only environmental specialists have access to these reports (as well as to national strategies and programs, dedicated to environmental protection and sustainable development of the country). Nevertheless, the Ministry for Environment, Construction and Territorial Development developed the Memorandum on Co-operation with NGOs (the Memorandum was signed by interested parties in 1997. The document stipulates information dissemination commitments of the Ministry, including publication of summary SoE reports in mass media outlets and provision of information on governmental control in the sphere.

In the Russian Federation, governmental SoE reports are disseminated among mass media representatives at briefings and TV interviews dedicated to materials of SoE reports. However, in connection with other pressing social problems (declining living standards, wage arrears, raising crime rates, drug abuse, etc.) mass media outlets are now less interested in environmental problems.

In Ukraine, SoE reports are disseminated on request and at specialised environmental conferences, meetings, press-conferences and other events. SoE reports are accessible for the general public free of charge.

However, user-friendly summary publications (e.g. newsletters, data booklets, topical brochures or leaflets), based on materials of SoE reports, are not published regularly. Environmental NGOs

discuss SoE reports, that contain specialised sections, dedicated to environmental education, public awareness raising and non-governmental movements.

L. Environmental modelling and forecasts are not used broadly enough for data extrapolation in the course of development of SoE reports.

This is especially true for Armenia, Tadjikistan and Turkmenistan.

At the same time, environmental modelling and forecasts are used for data extrapolation in SoE reports of Azerbaijan.

In Kazakhstan, environmental modelling is also used in the course of processing data for SoE reports.

In Kyrgyzstan, notwithstanding well-developed system of environmental reporting, environmental modelling and forecasts are not used for data extrapolation.

In the Russian Federation, different sections of SoE reports cover different periods of time (from comparison to a previous year to comparison to 1991 - i.e. from 2 to 10 years). If necessary, all available data are provided for several years. SoE reports use data extrapolation for development of environmental forecasts, however, environmental modelling is not used for these purposes.

In Ukraine, SoE reports provide analysis of developments since 1991 or (in some cases) for several previous years or for a reporting year only. If appropriate, environmental modelling and forecasts are used for data extrapolation.

M. Graphics and other modern tools are fairly widely used in NIS reports to visualise data and indicators.

Armenia is an exception in this respect.

In Ukraine, for example, data and indicators are always visualised by graphic and other modern information visualisation tools, including maps (accompanied by relevant interpretation and analysis).

SoE reports of Azerbaijan and Uzbekistan contain charts, drawings and maps.

In Georgia, SoE reports contain data in tables and charts, accompanied by relevant explanations in the main text.

In Kazakhstan, graphics and other modern information visualisation tools are widely used in SoE reports (e.g. colour charts, diagrams, tables). Graphs are accompanied by analysis and interpretation.

Similarly, in Kyrgyzstan, different maps and charts are used for data visualisation in national SoE reports and these entries are accompanied by explanations, analysis and interpretation.

In the Republic of Moldova, modern data processing and visualisation tools are also used in the course of development of national SoE reports (including colour maps, charts, diagrams and

tables). The majority of these entries are accompanied by explanations, analysis and interpretation.

In the Russian Federation, for convenience of users, national SoE reports contain many maps, charts, tables and diagrams, accompanied by relevant analysis and explanations.

In Tadjikistan, graphic tools are also used for data visualisation in national SoE reports, accompanied by analysis and interpretation.

N. In many countries SoE reports are structured to reflect national environmental priorities, however, these reports do not allow to assess progress of implementation of national environmental action plans/programs and compliance with international environmental commitments.

Armenian SoE reports cause the most serious concerns. National reports do not allow to assess state of environment in the country and opportunities for addressing its major environmental problems. SoE reports lack a clearly defined structure, as a result, it is difficult to identify trends of change of environmental quality and major environmental impacts, to foresee anticipated future developments and to develop recommendations for improvement of environmental protection and natural resources use.

Situation in Ukraine may be assessed positively, structure of SoE reports seems to reflect national environmental priorities to the maximal extent possible. Every year structure of SoE reports is adjusted in order to reflect more adequately the most urgent regional problems. Structure and contents of SoE reports allow to assess progress of implementation of national environmental action plans/programs and compliance with international environmental commitments.

In Kazakhstan, decisions on structure of SoE reports are made by the Ministry for Natural Resources and Environment. Structure of SoE reports reflects national environmental priorities. At the same time, structure and contents of SoE reports do not allow to assess progress of implementation of national environmental action plans/programs and compliance with international environmental commitments. To this end, it is necessary to provide assessments, while actually SoE reports provide only information on already completed actions.

In Georgia, the national SoE report is an official governmental document on actual state of environment in Georgia at the time of its completion. The final part of the report contains general forecasts and recommendations (to be accounted for by relevant executive bodies).

In Kyrgyzstan, structure and contents of SoE reports to some extent allow one to assess progress of implementation of national environmental action plans/programs and compliance with international environmental commitments.

In the Republic of Moldova, structure and contents of national SoE reports allow to assess changes of environmental quality and progress of implementation of national environmental action plans/programs and compliance with international environmental commitments. In 10 recent years, structure of SoE reports was only slightly adjusted.

In the Russian Federation, structure of annual SoE reports is of fairly universal pattern and it was not changed substantially in ten recent years. As a result, these reports provide a reliable statistical source for comparative analysis over a sufficient period of time. The latter feature is fairly important to identify trends of change of key environmental media and resources, and stability of these trends, to identify major impact factors, to predict anticipated changes and to develop relevant recommendations for improvement of laws and regulation, institutional, technical and economic measures for regulation of environmental protection and natural resources use.

The Russian Federation covers the largest land area in the World, comparatively to all other countries. Moreover, 89 constituents of the Russian Federation have fairly different geographic, climate, economic and social conditions. As a result, common nation-wide environmental priorities should be considered with some reservations. For a long time, the majority of constituents of the Russian Federation considered problems of air quality, as well as drinking water quantity and quality as their environmental priorities. In some constituents of the Russian Federation, the most urgent environmental problems incorporate radioactive contamination, caused by well known nuclear accidents, while some other prioritise desertification, soil degradation, growing accumulation of toxic waste, etc. All these differentiated priorities are reflected in part VI of SoE reports - "Regional State of Environment". Structure and contents of national SoE reports allow to assess progress of implementation of national environmental action plans and special federal programs, as well as compliance with international commitments. However, the key problem of their implementation is fairly clear - it is associated with acute shortage of finance resources.

O. In some countries, SoE reports are focused at current developments, do not provide conclusions and recommendations for the future. Some SoE reports do not provide opportunities for decision-making on specific environmental policy issues.

For example, in Georgia, SoE reports cover only one reporting year and are primarily focused at contemporary developments.

SoE reports of Kazakhstan reflect achievements in environmental protection. A detailed analysis of SoE reports may reveal that these reports are of static nature, do not reflect contemporary development and are not future-oriented. These reports provide comparative review of current developments vs. developments of the past, and incorporate brief data summaries, conclusions and recommendations. SoE reports are mainly intended for practical use by structure units of the Ministry for Natural Resources and Environment.

In Kyrgyzstan, structure and contents of SoE reports allow (to some extent) to assess progress of implementation of national environmental action plans/programs and compliance with international environmental commitments.

In the Russian Federation, annual SoE reports are focused primarily at state of environment in a reporting year. Every annual report contains a final section, incorporating conclusions, forecasts and recommendations for improvement of environmental legislation, and implementation of institutional, technical and economic actions for improvement of environmental protection and rational use of natural resources. Conclusions and recommendations of SoE reports were used for development of short/long-term environmental action plans and programs, including *inter alia* the following ones:

- "The Major Provisions of the State Strategy of the Russian Federation for Environmental Protection and Sustainable Development" (approved by the Presidential Decree of 04.02.1994),
- "Environmental Action Plan of the Government of the Russian Federation for 1994-1995" (approved by the Government of the Russian Federation on 18.05.1994),
- "The Action Plan of the Government of the Russian Federation in the Sphere of Environmental Protection and Natural Resources Use for 1996-1997" (approved by the Government of the Russian Federation on 19.02.1996),
- "The Concept of Transition of the Russian Federation to Sustainable Development" (approved by the Presidential Decree of 01 04.1996),
- "The Concept of National Security of the Russian Federation" (approved by the President of the Russian Federation on 17.12.1997),
- "The State Strategy of Sustainable Development of the Russian Federation" (approved by the Government of the Russian Federation in December 1997),
- "The National Environmental Action Plan of the Russian Federation for 1999-2001" (approved by the Government of the Russian Federation on 12.11.1998).

Besides that, information materials of SoE reports were used for identification of cities/regions of environmental crisis, as well as for identification of other problems. Based on these materials, more than 20 specific national programs were developed and approved to address relevant problems, including: "Development of a Centralised State System for Control of Radiological Situation at the Territory of the Russian Federation", "Drinking Water Supply for the Population of the Russian Federation", "Waste", environmental quality improvement programs for Orenburg, Samara, Sverdlovsk and Tula oblasts, Primorskiy Krai, Nizhniy Tagil, Bratsk, Chapaievsk, and Cherepovets cities, "Comprehensive Federal Program for Protection of Baikal Lake and Rational Use of Natural Resources of the Lake Watershed Area", etc.

In Ukraine, SoE reports are future-oriented. These reports contain brief summaries, conclusions and recommendations for decision-making, intended for use by the Board of Senior Officials of the Ministry for Environment and Natural Resources, the Cabinet of Ministers, the Parliament, and the Inter-ministerial Commission. Every year, the Board of Senior Official of the Ministry for Environment and Natural Resources makes environmental policy decisions, based on materials of SoE reports.

II. HIGHLIGHTS OF ENVIRONMENTAL REPORTING IN NIS

The following major achievements of environmental reporting in NIS should be noted:

A. SoE reports demonstrate a fairly broad topical coverage. In the majority of countries, national reports provide comprehensive information on environmental quality and pressures.

The following issues are covered:

(a) Environmental quality, including:

- air emissions;
- air quality;
- quality and quantity of inland surface water bodies and groundwater;
- marine environment and coastal areas;

- land and soil contamination;
- chemicals;
- industrial accidents;
- waste generation, treatment and storage;
- biodiversity, protected territories, extinct and endangered species;
- urban environment;
- health and environment.

(b) Environmental pressures:

- power industry;
- transport;
- agriculture;
- forestry;
- fisheries;
- tourism;
- other industries.

(c) Environmental policy actions:

- Pollution abatement and control;
- Economic instruments;
- Environmental expenditure (including foreign aid);
- Co-operations with regional/local authorities;
- Participation of environmental NGOs and other major groups;
- Environmental education;
- Environmental R&D works;
- International co-operation.

In Georgia, SoE reports cover some additional topics:

- "radioactive contamination",
- state of mineral resources,
- adverse physical environmental impacts,
- natural disasters,
- specific meteorological factors,
- legislation, environmental assessment of projects and issuance of permits for business activities.

In Kyrgyzstan, SoE reports incorporate the following additional chapters:

- protected natural territories,
- forest resources,
- industrial and municipal waste,
- environmental expenditure,
- natural disasters,
- transboundary environmental impacts of mining operations in Central Asia,
- environmental management at facilities of Kyrgyzaltyn JS Company,
- environmental management at Kumtor mining site,
- state of environment in the city of Bishkek, sanitary and hygiene supervision,
- monitoring in Chuisk Oblast,
- international environmental co-operation,

- environmental education in Kyrgyzstan.

In Kazakhstan, section "Environmental Policy Actions" poorly reflects such issues as:

- Economic instruments;
- Environmental expenditure, including foreign aid;
- Co-operation with regional/local authorities;
- Participation of environmental NGOs and other major groups;
- Environmental education;
- Environmental R&D works.

The most comprehensive review of state of environment is provided in national SoE reports of the Russian Federation:

Environmental quality:

- Emissions of hazardous pollutants are reviewed in sections "Industrial Environmental Impacts" and "State of Environment in Regions";
- Air quality is reviewed in section "Air. Transboundary Air Pollution. Ozone Layer";
- Inland surface water bodies and groundwater (quantity and quality) as well as marine environment are reviewed in section "Surface Water Bodies and Groundwater. Marine waters". Coastal areas are not reviewed separately.
- Land and soil contamination issues are reviewed in sections "Soils and Land Resources" and "Industrial Environmental Impacts".
- Chemicals are reviewed in sections "Agriculture" and "Soils and Land Resources".
- Information on industrial accidents is provided in sections "Industrial and Transport Accidents and Disasters" and "Industrial Environmental Impacts".
- Waste generation, treatment and storage are reviewed in sections "Consumption and Production Waste", "Industry", "Armed Forces" and "State of Environment in Regions".
- Biodiversity, protected territories, extinct and endangered species are reviewed in sections "Flora, Including Forests", "Fauna, Including Fish Stocks" and "Protected Natural Territories".
- Urban environment was reviewed in specialised sections "State of Environment in Urban Areas" in SoE reports of 1996 - 1999.
- Health and environment issues are reviewed in section "Health Impacts of Environmental Factors".

Environmental pressures:

- Environmental pressures of industry, including power industry, transport and agriculture, are reviewed in relevant parts of section "Industrial Environmental Impacts".
- Forestry and fisheries are reviewed in relevant parts of section "Environmental Quality and State of Natural Resources", however, these sectors are considered as natural resources, instead of environmental impact factors. In practice of Russian environmental management, environmental impacts of operations, associated with logging, timber transportation and processing are considered. In the case of fisheries, SoE reports focus at industrial reproduction of valuable fish species, introduction of fish species and regulation of fish catches.
- Environmental pressures are not reviewed individually. Instead, the section, dedicated to national parks (part "Protected Natural Territories"), partly deals with environmental pressures, as well as part "Impacts of Environmental Factors on Protection of Cultural Heritage".
- Besides that, SoE reports provide information on environmental pressures of housing and utilities sector and the Armed Forces.

Environmental policy actions:

Pollution abatement measures are reviewed in sections "Environmental Quality", "Industrial Environmental Impacts" and "State of Environment in Regions" of SoE reports. Pollution control measures, economic instruments, environmental expenditure, environmental education, environmental R&D works, international co-operation, participation of NGOs and other major groups are reviewed in relevant sections of part "State Regulation of Environmental Protection and Natural Resources Use":

- "State Environmental Control and State Supervision of Use and Protection of Specific Natural Resources";
- "Environmental Regulation and Financing of Environmental Protection";
- "Environmental Education and Awareness Raising";
- "Sciences and Technologies for Addressing Environmental Problems and Ensuring Environmental Security";
- "International Co-operation";
- "Non-governmental Environmental Movements".

Issues of co-operation with regional/local authorities are mainly reviewed in sections "State Policy ..." and "Environmental Legislation of the Russian Federation". *Inter alia*, the following issues are reviewed:

- "Environmental Security",
- "Environmental Programs and their Implementation",
- "Environmental Enforcement by the Office of the Public Prosecutor",
- "State Environmental Assessments",
- "Environmental Monitoring",
- "Information Support of Environmental Activities".

B. In the course of development of NIS SoE reports, different indicators are used, allowing to assess environmental quality fairly adequate, namely:

- objective and comprehensive nature of environmental information;
- principles of sustainable development;
- compliance with the due environmental legislation;
- reflection of international agreements and conventions.

For example, in the national SoE report of Kazakhstan, the following main indicators are used:

(a) Air:

- Aggregate emissions of pollutants;
- Aggregate emissions of nitrogen oxides, sulphur and carbon;
- Benz(a)pyrene air concentrations at the ground level;
- CO air levels;
- Levels of particulates;
- Aggregate emissions of road transport.

(b) Water resources:

- Aggregate wastewater discharges;
- Discharges of untreated wastewater;

- Nitrate water levels in groundwater and surface water bodies;
 - BOD in surface water bodies;
 - Levels of oil and oil derivatives in groundwater and surface water bodies.
- (c) Land resources:
- Soil productivity (value of agriculture products vs. inputs);
 - Areas of cultivated land, alienated from agriculture use.
- (d) Biodiversity:
- The number of wild plant and animal species, listed in the Red Book;
 - Lost plant and animal species;
 - Reduction of forest areas.
- (e) Hazardous waste and operations:
- Solid waste by categories;
 - Amounts of municipal waste;
 - Reuse and treatment of municipal waste;
 - Estimated costs of rehabilitation of burial sites of radioactive and other types of hazardous waste.
- (f) Health impacts of environmental factors:
- Life expectancy;
 - Infant mortality;
 - Incidence of allergic diseases;
 - Cancer morbidity;
 - Incidence of contagious diseases;
 - Blood and cardiovascular diseases.
- (g) Forest resource:
- Intensity of forest restoration works;
 - Planting of new forests;
 - Forest areas, affected by plant diseases and insects;
 - Forest areas, affected by fires.

In many NIS, estimation of environmental indicators and their further use for environmental decision-making is based on the following information and methodologies:

- available governmental statistics;
- internal information of governmental agencies;
- methodological guidelines for processing of environmental information in official documents, dealing with strategic development of industries;
- research publications and works.

For example, the State Committee for Statistics of the Russian Federation developed the System of Environmental Statistic Parameters. One of the most complete reference guides of agency-specific information on use of natural resources was developed in 2001, under auspices of the Ministry of Natural Resources of the Russian Federation (analytical report "Natural Resources and Environment of Russia").

At the same time, in the course of development of environmental indicators, NIS encounter substantial difficulties, including:

- quality of available information;
- non-compliance of NIS measurement methodologies with international standards;
- inadequate quality of primary information;
- incomplete coverage of measurements;
- incompatibility of data from different sources (incompatibility of information on the same phenomena, but from different sources).

Many experts believe, that NIS should use a limited set of environmental indicators (these considerations are closely linked with priority setting). In the case of multiple parameters, it is fairly hard to make sound decisions and assess sustainability of national development. Indicators should be ranked, depending on their relative priority. The above considerations were accounted for by many international organisations and countries in the course of development of their systems of indicators. For example, OECD proposes 10 core environmental indicators, while EU proposes 10 key indicators.

In general, the above analysis of NIS environmental indicators demonstrates, that in many of these countries, existing statistical reporting allows to get quantitative information of key environmental indicators and propose these indicators for assessments of environmental quality at the national level. However, it is necessary to note, that sets of indicators should not be considered as a fixed system - indicators should be adjusted and modernised, depending on new problems and trend.

OTHER ENVIRONMENTAL REPORTS

Besides SoE reports, many NIS publish other periodical reports, dealing with environmental quality and public health issues, including compendia of regulations and standards, information materials on sustainable development, statistical yearbooks and environmental newsletters. These reports are published by both governmental and non-governmental organisations. Many of these publications are available in the Internet or are distributed with use of e-mail mailing lists. Some specific examples are shown below.

In Belarus, the Ministry for Natural Resources and Environment and the National Academy of Sciences publish environmental newsletter "State of Environment of Belarus". Besides that, the Ministry for Natural Resources and Environment annually publish reference and statistical materials on environmental quality and environmental activities, as well as compendia of environmental regulations and standards. So far, 26 compendia have been already published. The Ministry for Statistics and Analysis of the Republic of Belarus also publish statistical information on environmental quality. Besides that, some materials, dealing with environmental issues are published by the Public Health Ministry, the Ministry for Forestry, the Ministry for Emergency Response, the State Committee for Meteorology and other governmental agencies (within their relevant spheres of competence).

In Moldova, beside mainstream national SoE reports, some structural units of the Ministry for Environment, Construction and Territorial Development publish their own annual reports (e.g. the State Environmental Inspectorate and "Hydrometeo" State Service). Some other reports on environmental quality were also published in the course of development of implementation

strategies for international conventions, including the Biodiversity Convention (2000) and Convention on Desertification (2000), as well as the Strategy of Sustainable Development of the Republic of Moldova (2000). National reports are being developed under the Convention on Climate Change and for Johannesburg Summit on Sustainable Development (to be held in August 2002). Besides that, other information materials on environmental quality are also published in Moldova (compendia, popular publications and articles).

In Turkmenistan, main information on environmental management and rational use of natural resources is concentrated in governmental statistical reporting. The National Institute of Statistics ("Turkmenmillikhasab") analyses and publishes these material annually.

In Armenia, the Statistical Directorate of Armenia collects environmental information. The country has no legislative acts dealing with structure and contents of SoE reports. Every individual agency develops information materials on its own discretion and submit these materials to the Statistical Directorate, which, in its turn, develops SoE reports, based on these materials. Outdated equipment and underfunding do not allow to maintain adequate environmental monitoring. Information materials, that are submitted to the Statistical Directorate of Armenia, do not provide complete data coverage and do not incorporate data analysis. As a result, SoE reports do not allow to assess state of environment in Armenia and available capacity of the country to address its major environmental problems. Due to the lack of a clearly defined structure of SoE reports, it is rather hard to identify trends of change of environmental quality and factors of environmental impacts, to make forecasts or to develop sound recommendation on actions for environmental protection and regulation of natural resources use.

In the Russian Federation, the State Committee for Statistics publish a limited number of copies (300 - 500 copies) of statistical yearbooks of environmental parameters, while the Russian Hydrometeorology Committee published surveys and maps, dedicated to air pollution, contamination of surface water bodies and seas, etc. Almost all constituents of the Russian Federation publish their own annual SoE reports (these reports generally follow the structure of the national report, but there are some deviations, depending on specific climate and economic factors, affecting relevant regions).

In Uzbekistan, besides national SoE reports, annual state statistical reports are also published since 1991. Information for these reports is submitted by local facilities and organisations to statistical bodies, that control their superior organisations and to local bodies of the State Committee for Environment. These facilities and organisations are responsible for completeness and reliability of their information and for timely development and submission of these statistical reports. Based on these statistical reports, the Department of Statistics of the Ministry for Economic Statistics develops statistical report "Major Parameters of Environmental Protection and Natural Resources Use in the Republic of Uzbekistan" (with circulation of about 30 copies). The Department of Statistics has full access to databases of facilities, organisations and official bodies, that submit statistical reporting (as well as to reporting of individual agencies). In Uzbekistan, statistical reports and environmental reports are published for official use only and users of these reports are required to pay. Information of statistical reports is used by ministries and organisations for development of national reports on state of environment and rational use of natural resources, as well as for development of national policies and programs for environmental protection and sustainable development of the country. The general public has access to these materials, but users are required to pay. Statistical reports in Uzbekistan are used by the State Committee for Environment, ministries and agencies in charge of state environmental supervision, as well as by the Cabinet of Ministers and the Parliament for

decision-making on environmental matters. Developers of statistical reports of Uzbekistan do not use graphics and other modern data visualisation tools.

The structure of statistical reports of Uzbekistan reflects the following national environmental priorities:

- Air protection;
- Toxic waste;
- Land rehabilitation;
- Geological surveys;
- General information on forest resources, natural reserves, game reserves;
- State control of environmental protection and compliance with the due environmental legislation;
- Pollution charges, fines and other environmental charges;
- Environmental expenditure;
- Annual costs of fixed assets;
- Investments into protection and rational use of natural resources, commissioning of environmental infrastructure facilities.

However, structure and contents of statistical reports (including "Major Parameters of Environmental Protection and Natural Resources Use in the Republic of Uzbekistan") do not allow to assess adequately progress of the country in implementation of national environmental programs and compliance with international environmental requirements.

In Kazakhstan, the Ministry of Finance and other agencies also produce statistical reports. Statistical reports are procured quarterly, however, these reports are primarily intended for official use, rather than for dissemination among interested organisations and the general public.

In addition to governmental SoE reports, Ukraine also publishes:

- annual compendia of the State Committee for Statistics - "Environmental Protection and Use of Natural Resources in Ukraine: Statistical Yearbook" (in Ukrainian); annual compendia of the Ministry for Emergency Response "State of Natural and Technogenous Security in Ukraine and its Improvement" (in Ukrainian);
- regional reports, for example, in 2001, Donetsk Oblast State Administration and Donetsk Oblast Directorate of the Ministry for Natural Resources and Environment of Ukraine published compendium "Land of Our Discontent: Based on Materials of SoE report of Donetsk Oblast in 2000" (in Ukrainian);
- annual topical newsletters of the State Hydrometeorology Service of the Ministry for Natural Resources and Environment of Ukraine (environmental monitoring), etc.

CONCLUSIONS

The above analysis of environmental reporting in New Independent States of the former USSR allows to make the following conclusions:

Generally, development of national SoE reports and other environmental reports in NIS is based on national environmental legislation. However, some NIS lack legislative acts on structure and contents of national SoE reports.

Some NIS do not publish their national SoE reports regularly. Some of these countries focus at development of statistical environmental reports and summaries instead of national SoE reports.

Some NIS have failed to establish networks of experts for development of individual chapters of SoE reports. At the same time, in some countries, that have established such expert networks, draft SoE are not submitted for approval of persons, who contributed into their development.

In almost all NIS, finance allocations for development of national SoE reports are inadequate. As a result, it is impossible to increase their circulation, publish versions of SoE reports in other languages or improve their design to make SoE reports more user-friendly.

In some NIS, agencies in charge of development of SoE reports do not have their own databases for processing necessary information materials, moreover, these agencies do not have access to databases of other official bodies and institutions, that supply information for incorporation into SoE reports. Some countries do not use electronic means of information transfer, as a result, development of SoE reports is substantially complicated. Situation in Armenia is extremely difficult, the system of environmental monitoring in the country is almost destroyed, monitoring facilities lack reagents for analytical purposes and funds for field visits to remote regions of Armenia. As a result, available information on state of environment in the country cannot be considered as adequate.

Notwithstanding that 10 of 12 NIS have signed and ratified Aarhus Convention of Access to Information, Public Participation in Decision-making and Access to Justice on Matters of Environmental Significance, in some NIS the general public lacks free access to information of SoE reports. Circulation of printed versions of SoE reports is insufficient for their broad dissemination among members of the general public and interested organisations. In some NIS SoE reports are not available at CDs or in the Internet. Some NIS do not produce summary publications, based on SoE reports (e.g. newsletters, booklets, topical brochures or leaflets). Dissemination of SoE reports in mass media outlets is almost non-existent, as a result, the general public does not have complete information on materials of SoE reports.

Environmental modelling and forecasts for data extrapolation are not used broadly for development of SoE reports, the same is true for graphic and other modern data visualisation tools.

In many countries SoE reports reflect national environmental priorities, however, these reports do not allow to assess progress of implementation of national environmental programs and plans and compliance with international environmental commitments. In some NIS, SoE reports are focused at contemporary developments and do not provide recommendations for the future.

Nevertheless, it is necessary to note, that topical coverage of SoE reports is fairly broad. In the majority of countries, SoE reports incorporate analysis or environmental quality and environmental pressures.

In the course of development of SoE reports, different environmental indicators are used. However, development of environmental indicators need substantial improvement with application of experience of other countries and international organisations.