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COUNTRY PROFILES

REPUBLIC OF MOLDOVA

1. Overall structure of environmental governance

The Ministry of Environment (MoE) is in charge of managing the environment in the Republic of Moldova. MoE is responsible for developing and implementing most of the legal documents which form the legislation on environmental protection. MoE has one executive body – the State Ecological Inspection (IES) which supports the implementation of the environmental policy and legislation.

There is a whole range of specialised institutions such as territorial environmental agencies and inspections of the IES, the Agency of Geology and Mineral Resources, the Agency *Apele Moldovei*, the State Hydrometeorological Service (SHMS), the National Agency on Regulation of Nuclear and Radiological Activity, the Fishery Service, the Institute on Ecology and Geography and the Environmental Information Centre. All these institutions are subordinated to MoE (except for the Institute of Ecology and Geography which subordinates to the Academy of Sciences and MoE) and support MoE including in collecting and disseminating information.

Interagency Cooperation Mechanisms

The Ministry of Agriculture and Food Industry implements the state policy on land protection and cooperates with MoE on implementation of the UN Convention to Combat Desertification, the Convention on Persistent Organic Pollutants and some others.

The State Forestry Agency (*Moldsilva*) is responsible for implementing the state policy on forestry as well as cooperating with MoE on implementation of the UN Convention to Combat Desertification and the UN Convention on Biological Diversity.

The Ministry of Health (MoH) implements a state policy on public health, including drinking water quality management, and carries out monitoring of environmental health, including air monitoring in residential areas. The territorial centres for preventive medicine of the MoH monitor quality of drinking and bathing water.

2. Multilateral Environmental Agreements and Obligations

The Republic of Moldova is a party to 19 international environmental conventions and four protocols (see Table 1); moreover, five more agreements have been signed.

Table 1. Participation of the Republic of Moldova in Multilateral Environmental Agreements and Programmes

No.	Agreement/Programme	Date of ratification (Rt), accession (Ac), approval (Ap), adoption (At) entry into force (EIF)
Global		
1.	UN Framework Convention on Climate Change (New-York, 1992)	09.06.1995 (Rt)
	Kyoto Protocol (Kyoto, 1997)	22.04.2003 (Rt)
2.	Convention for the Protection of the Ozone Layer (Vienna, 1985)	24.10.1996 (Ac)
	Montreal Protocol on Ozone Depleting Substances (Montreal, 1987)	24.10.1996 (Ac)
3.	Convention on Persistent Organic Pollutants (Stockholm, 2001)	07.04.2004 (Rt)
4.	Convention on Biological Diversity (Rio-de-Janeiro, 1992)	20.10.1995 (Rt)
	Cartagena Protocol on Biosafety, 2000	04.03.2003 (Rt)
5.	Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal (Basel, 1989)	02.07.1998 (Ac)
6.	Convention to Combat Desertification (Paris, 1994)	23.07.1999 (Ac)
7.	Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris, 1972)	23.09.2002 (Rt)
8.	International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto	11.01.2006 (EIF)
9.	Convention on the Conservation of Antarctic Marine Living Resources (Canberra, 1980)	
10.	Protocol on Environmental Protection to the Antarctic Treaty (Madrid, 1991)	
11.	Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington, 1973)	27.06.2001 (EIF)
12.	Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar, 1971)	20.10.2000 (EIF)
13.	Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 1979)	01.04.2001 (EIF)
	Agreement on the Conservation of Populations of European Bats	02.02.2001
	Agreement on the Conservation of African-Eurasian Migratory Waterbirds	01.04.2001 (EIF)
	Agreement on the Conservation of Cetaceans of the Black	

	Sea, Mediterranean Sea and contiguous Atlantic Area	
14.	International Convention for the Regulation of Whaling (Washington, 1946)	
15.	Global Forest Resources Assessment (FAO)	Participates
Regional		
16.	Convention on Long-range Transboundary Air Pollution (Geneva, 1979)	09.06.1995 (Ac)
	Protocol on Long-term Financing of the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) - 1984	
	Protocol on the Reduction of the Sulphur Emissions or their Transboundary Fluxes by at least 30 per cent, 1985	
	Protocol on Limitation of Emissions of Nitrogen Oxides or their Transboundary Fluxes, 1988	
	Protocol on Limitation of Emissions of Volatile Organic Compounds or their Transboundary Fluxes, 1991	
	Protocol on Further Reduction of Sulphur Emissions, 1994	
	Protocol on Heavy Metals, 1998	01.10.2002 (Rt)
	Protocol on Persistent Organic Pollutants, 1998	01.10.2002 (Rt)
	Protocol to Control Oxidation, Eutrophication and Ground Ozone, 1999	
	International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests)	Participates
17.	Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki, 1992)	04.01.1994 (Ac)
	Protocol on Water and Health (London, 1999)	16.09.2005 (Rt)
18.	Convention on the Transboundary Effects of Industrial Accidents (Helsinki, 1992)	04.01.1994 (At)
19.	Convention on Environmental Impact Assessment in a Transboundary Context (Espoo, 1991)	04.01.1994 (At)
	Protocol on Strategic Environmental Assessment (Kiev, 2003)	
20.	Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus, 1998)	09.08.1999 (Rt)
	Protocol on Pollutant Release and Transfer Register (Kiev, 2003)	
21.	Convention on the Conservation of European Wildlife and Natural Habitats (Bern, 1979)	01.09.1994 (EIF)
Subregional		
22.	Convention on Cooperation for the Protection and Sustainable Use of the Danube River	29.08.1999 (EIF)

For each international agreement there is a national coordination centre. The Republic of Moldova reports to the UN Commission on Sustainable Development and to the governing bodies of the current multilateral environmental agreements (MEA).

In order to improve information gathering and coordination between information holders and users in the Republic of Moldova, the following offices under conventions have been created:

- Biodiversity office (<http://bsapm.moldnet.md/>) was created in 2000 as the national coordination centre on information analysis and synthesis, the information is accessible in the national and English languages;
- POPs Sustainable Management Office (<http://www.moldovapops.md>) was created in March 2006 in order to facilitate the promotion of the National Strategy for Reduction and Elimination of Persistent Organic Pollutants and implementation of the National Implementation Plan for the Stockholm Convention. The Office has the following tasks: carrying out and coordinating the projects in the field of persistent organic pollutants and other hazardous chemicals, environment prevention pollution and protection of population health against the impact of these chemicals, implementation of the requirements of relevant international treaties. Information is available in the national and English languages;
- Ozone office (<http://www.ozon.md>) was created in April, 1999 and has following main goals: coordination of process of implementation of the action plan of the National Programme of stage-by-stage reduction of the ozone depleting substances (NP), exercising supervision of the NP implementation, conducting of monitoring and reporting in this area. Information is available in the national and English languages;
- Biosafety office (<http://www.biosafety.md>), the main goals: coordination and implementation of projects on biosafety, contribution to policy-making and working out legislation in this area, organisation of seminars and trainings;
- Office on climate change and the efficient use of energy resources (<http://www.clima.md>). Information is available in the national and English languages;
- Carbon Finance Unit) (<http://www.cfu.md>) was created in 2005 for monitoring and launching of projects as part of the Clean Development Mechanism. Information is available in the national and English languages.

The offices use diverse commercial software for collecting and processing data which makes the process of electronically exchanging data practically impossible, the information can generally be received from these offices in hard copies.

In 2009, the Republic of Moldova with the financial support of GEF prepared the *Second National Communication on the Implementation of the UN Framework Convention on Climate Change* in 2009 (available on website of the Office on climate change and the efficient use of energy resources (http://www.clima.md/public/458/en/SNC_ENG_Web.pdf) and the *National Greenhouse Gas Emission Inventory for 1990-2005* (http://www.clima.md/public/457/en/NIR_ENG1.pdf).

The Ozone office submits annually to the Convention Secretariat data on the consumption of ozone-depleting substances. The last report was submitted in 2009.

In 2004, the National Strategy on the reduction and elimination of persistent organic pollutants and the National Implementation Plan for the Stockholm Convention on persistent organic pollutants were approved by the Government of the Republic of Moldova. The texts of both documents in the national and English languages are available on the website of POPs Sustainable Management Office

(<http://www.moldovapops.md/app/includes/files/nip%20rom.pdf>;
http://www.moldovapops.md/app/includes/files/nip_eng.pdf). 1st Report for the period from 17/5/2004 to 31/12/2006 was submitted on February 28, 2007.

In 2008, as result of the implementation of the project “Moldova-UNEP Partnership on capacity building for improving the environmentally sound management of chemicals in the Republic of Moldova and the implementation of SAICM”, the *National Profile for Chemicals Management in the Republic of Moldova* was developed. The texts in the national and English languages are available on Internet at:

<http://www.moldovapops.md/app/includes/files/NPCM%20Moldova%20Rom.pdf>;
<http://www.moldovapops.md/app/includes/files/NPCM%20Moldova%20Eng.pdf>.

In 2009, the Republic of Moldova compiled the Fourth National Report on Biodiversity (<http://www.cbd.int/doc/world/md/md-nr-04-en.pdf>).

In 2007, the Republic of Moldova submitted the First National Report on the Implementation of the Cartagena Protocol (<http://www.cbd.int/doc/world/md/md-nr-cpb-01-en.pdf>).

In 2000, the State programme on use of production and consumption waste for 2001-2010 was adopted. The programme was compiled with regard to the Basel Convention and EU recommendations on waste management. The Republic of Moldova regularly submits reports on the implementation of this Convention. The National report for 2007 was submitted in 2009.

In 2000, the National action plan on combating desertification was developed. In 2006, the Republic of Moldova prepared the National Report on the Implementation of the UN Convention to Combat Desertification (http://www.unccd.int/cop/reports/centraleu/national/2006/republic_of_moldova-eng.pdf).

In 2009, the Republic of Moldova submitted the annual report for 2008 on the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora.

The Republic of Moldova submitted annual reports on the implementation of the Agreement on the Conservation of Populations of European Bats; the *National Report for 2008* is available on the EUROBATS website: http://www.eurobats.org/documents/pdf/National_Reports/nat_rep_Mol_2008.pdf.

The Republic of Moldova prepared the Forest Resources Assessment Country Report for the FAO Global Forest Resources Assessment 2010. The report is available on the FAO website: <http://www.fao.org/forestry/20262-1-165.pdf>.

The Republic of Moldova submitted to the Secretariat Convention on Long-range Transboundary Air Pollution two reports on heavy metals and persistent organic pollutants in 2002 and 2003.

The Republic of Moldova participates in the International Co-operative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests).

In order to meet the obligations set out in the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, the Republic of Moldova has signed with neighbours a number of bilateral agreements on the protection of transboundary water resources.

In 2008, Moldova submitted the Report on the implementation of the Aarhus Convention (http://www.unece.org/env/documents/2008/pp/mop3/ece_mp_pp_ir_2008_MDA_e.pdf). In 2000, an Environmental Information Centre was set up within the MoE, which was to be responsible for collecting updating and distribution environmental data. However, this work is not being done and the centre has turned into an environmental library.

In 1998, the Moldova Regional Environmental Centre (REC-Moldova) was established with the aim of supporting solutions of environmental problems in the country as well as promoting the cooperation between NGOs, state bodies, local communities, business and other stakeholders. The Centre distributes information through its website (<http://www.rec.md>) by publishing an electronic bulletin as well as through the Information Centre in Chisinau. The REC-Moldova has two branches in the towns of Beltsy and Kagula.

Annually in the Republic of Moldova an action plan for the implementation of the Danube Convention is developed.

3. Environmental Data Management

Information Management and Reporting

The Republic of Moldova does not have a national system of environmental information. There is no common information resource which makes searching for information difficult. This complicates working on national reports on state of environment, action plans, strategies, etc. A lot of information exists only on paper and is possessed by different organisations. Coordination and data exchange between agencies responsible for environmental monitoring is irregular and these are frequently the result of personal initiatives of experts.

Some ministries and agencies set up their own decentralised databases on environment following their own technical procedures and protocols.

Environmental information in the hands of other state organisations is not easily accessible by MoE, although the accessibility of this information was stated by law and is contained in official agreements. Hence MoE has to rely, to a great extent, on information collected by its inspectors.

Some progress in this field has been achieved thanks to external support. Thus, for the implementation of the project *Assisting the Implementation of the Aarhus Convention* in 2001-2002, Denmark provided hardware (a server and 22 work stations), software, expert advice and training assistance for the development and installation of the environmental databases “Environment of Moldova (*Mediul Moldovei*)” for SHMS and the “Environmental Control” for IES. The aim of this measure was to improve the information system of the MoE by creating a PC network with applications for databases used for working with

environmental data (water, air, land) and data on environmental law enforcement. After completing the projects in 2003, the bases were no longer used.

Within of the scope of the project “Assisting in the Implementation of the Aarhus Convention”, Denmark assisted the Republic of Moldova in compiling a set of monitoring data and a list of organisations dealing with analysis and sampling. After that, recommendations were made on creating an Integrated Environmental Monitoring System (IEMS). Denmark financed the staff of the IEMS Centre which was actually situated in SHMS. The centre was provided by Denmark with a server, PCs; software and Internet access in order to assist in working on the IEMS. It seems that the country has not implemented the recommendations given on the above project. The concept of the IEMS has not been discussed with the representatives of those ministries and agencies, who should be involved in monitoring. As a result the regulative power of the Ministerial Decree on the IEMS from 1998 was insufficient to launch it. IEMS does not function and exchange of environmental data is still quite complicated. As no functional links between SHMS and other leading monitoring groups have been created, the IEMS Centre has actually ceased to exist after the project was completed and Denmark stopped its financial support in the end of 2003.

It is necessary to provide expert support to MoE for working out of a package of legislative documents for establishment and maintenance of the IEMS.

Supported by France, MoE together with MoH, Agency on Geology and Mineral Resources and Agency *Apele Moldovei* established a centre for data on water resources. The centre uses the decentralised but unified data base containing information on: (1) water monitoring units; (2) physical and chemical parameters of freshwater and waste water; (3) water consumption and pollution; (4) quality and quantity of groundwaters; (5) the inventory of lakes, water basin and water treatment facilities; (6) water reports of all economic entities.

Environmental Statistics

The National Statistics Bureau (NSB) expanded its work on collecting environmental data. In particular, it introduced the process of statistical reporting on atmospheric emissions of polycyclic aromatic hydrocarbons (PAH), heavy metals and POPs. Currently, statistical data are collected from companies and government institutions in 17 fields. NSB publishes aggregated data on website and forwards a set of detailed environmental data to MoE.

Economic subjects have to submit annually reports on air emissions, waste water discharges, waste generation and on environmental protection expenditures.

MoE and NSB cooperate in collecting statistical data on air emissions and waste. Territorial bodies of NBS send out forms of the statistical reporting on these subjects. The filled out forms, in hard copies, are then forwarded to the territorial divisions of MoE where data are verified. The quality of data is provided through mechanisms of data validation at a stage of reception of primary reports from economic subjects. There are also methods of instrumental verification by territorial divisions of MoE. These reports are then submitted to NSB where they are digitalised and processed using outdated software (MS-DOC and Excel).

Collecting statistical data on water intake and waste water discharges is carried out by the State Enterprise “Basin water management authority” of the Agency *Apele Moldovei*. Economic subjects submit filled out annual report forms in hard copies, to the State Enterprise

“Basin water management authority”, where data are verified and transformed into the electronic form, processed and aggregated. The quality of data is provided by checking the incoming information at the report submission stage from water users. Aggregated data are then submitted in the form of reports, in hard copies, to NSB which publishes these data.

Statistical environmental data are accumulated in NBS which places this data in the national, English, and Russian languages at website <http://www.statistica.md>. In particular, the following environmental data time series for 2002-2008 are available at the website: land resources; conduction of forest cultivation works; forest felling; water use; discharge of sewage, mine and underground drainage waters in natural water bodies; emissions of selected pollutants into atmospheric air from stationary sources; emissions of selected pollutants into atmospheric air by road transport; quality of gasoline imported in the country; household waste generation in urban areas; generation and recycling of waste by enterprises and organisations; hazardous waste; investments in fixed capital for environmental protection; number of samples analyzed by sanitary-chemical parameters.

There is an interactive database on NBS website on water use, protection of atmospheric air and generation and recycling of waste with data for 2001-2009. There are also statistical data on transport and agriculture. Database is accessible at <http://statbank.statistica.md/pxweb/Database/RO/databasetree.asp> in the national language and at <http://statbank.statistica.md/pxweb/Database/EN/databasetree.asp> in the English language. A user can select data according to set-up parameters.

Data on fuel and energy resources, particularly, the energy and electrical power balances for 2001-2008, as well as on transport are also available at the NBS website.

NSB issues a statistical yearbook for the Republic of Moldova in the national, Russian and English languages which also has a section on environment. Statistical yearbooks for 2002-2009 were published as publications, produced on CD in PDF and Excel; they are also available in PDF on NBS website: <http://www.statistica.md/pageview.php?l=en&idc=263&id=2193>.

4. Environmental Monitoring

Currently, different kinds of monitoring are carried out in the Republic of Moldova embracing the quality of environment, the state of natural resources, e.g. land, forests and wildlife, as well as emissions and discharges of pollutants. MoE plays a key role in environmental monitoring and data gathering.

Air Quality Monitoring

SHMS runs 17 air monitoring stations, which are located in five main cities: Chisinau (6), Beltsy (2), Tiraspol (3), Rybnitsa (2), and Bendery (4). These stations are not automated; therefore sampling is made manually – three times a day for determination of concentrations of gases and dust in air, and once a month for determination of concentrations of benzopyrene and heavy metals in air and aerosols concentration in precipitations. Monitoring is conducted of basic pollutants (suspended particulate matters, SO₂, CO, NO₂) and of specific pollutants (dissolved sulfates, phenols, formaldehyde). Since 2009, an observation of transboundary

pollution of atmosphere in the southeast part of Moldova (town of Leova) under the EMEP programme (Level I and partially Level II) is conducted.

MoH runs 12 stationary posts for air quality monitoring in. Monthly, maximum concentrations of six air pollutants are measured in residential areas and inside buildings: total content of suspended particulate matters, O₃, NO₂, SO₂, CO and Pb.

Water Quality Monitoring

SHMS surface water monitoring network includes 49 observation posts on 16 largest rivers, six large water basins and one estuary. The posts are close to urban areas. Surface water diffuse pollution monitoring is not performed in Moldova.

Sampling is performed on a monthly basis for the measurement of at least 42 hydrochemical parameters and at least 6 hydrobiological parameters depending on the observation post.

Since 2007, monitoring of quality of surface water is focused on requirements of the Water Framework Directive on biological and chemical parameters, with subsequent changes to optimize the location of sampling points and the frequency of observation. There is begun observation of a condition of the higher aquatic vegetation.

SHMS is involved in a joint sampling programme on the Prut River with the environmental protection agency of Yassy (Romania).

The groundwater monitoring network run by the Geological Agency of Moldova includes 186 active monitoring wells in 33 zones. The analysis is performed by 20 physical and chemical parameters and by 5 heavy metals (instead of 13 required by the standards). Sampling frequency is from one to ten times a month depending on the function of the monitoring well.

Since 2008, the joint quarterly sampling on the Dnestr and Prut rivers and information exchange on hydrochemical and hydrobiological condition of these rivers has been renewed according to the Programme of cooperation in the field of environment monitoring between the State Hydrometeorological Service of Republic Moldova and the State Committee on Water Management of Ukraine.

The territorial Centres for Preventive Medicine of MoH monitor drinking water quality in 3,550 underground wells in rural areas and in 11 surface reservoirs. However, the Republic of Moldova does not monitor biological parameters of surface water used as a source for drinking water supply. Bathing water is monitored only in urban areas (7 sites on the Dnestr and 8 on the Prut). Bathing water is not monitored in rural areas.

SHMS carries out also monitoring of quality of sediments in 14 points of the observation located on reservoirs, rivers and lakes. Samples are taken once a year and analysed on content of POPs, heavy metals, oil products, and also total nitrogen and phosphorus content.

Soil Monitoring

3,455 ha of ten regions are covered by the SHMS soil monitoring network. Sampling is performed twice a year on 52 sites.

IES samples soil, particularly to determine concentration of some pesticides, at polluting enterprises and other sources of pollution, and near to these objects. The MoH departments monitor soil in recreational areas, settlements, as well as in regions surrounding drinking water intakes. The Agrochemical Service of the Ministry of Agriculture and Food Industry monitors soil quality of arable lands, including pesticide concentration.

In 2009-2010, the list of monitored ingredients was expanded and new points of observation were included: a) for monitoring pollution of soils of roadside strips of highways in zones of influence of highways with different intensity of traffic; b) for monitoring pollution of soils in large and average cities. The monitoring network of industrial pollution of urban soils includes the points of observation representing sample plots within the boundaries of land tenure of 9 cities. Observations are conducted once in 4 years.

Biodiversity and Forest Monitoring

The national forest monitoring network run by *Modsilva* includes 70 monitoring sites covering all the Republic of Moldova's forests. The network density is 2x2 km, i. e. one site per 400 ha. There is another network with 12 monitored sites with a density of 16x16 km, i.e. one site per 25,600 ha. The collection, verification and processing of data received through this network are performed according to the guiding principles of the ICP Forests.

A number of Academy of Science institutes (botanic, zoology and genetics), the State University of the Republic of Moldova and the State Agrarian University study the wildlife of the country on a species level. Information on the state of different species is usually published three times a year.

Monitoring results are submitted to regulatory bodies and presented to the public and the international community. According to the scheme of the distribution of information, that is updated and approved annually by MoE, monitoring data is submitted to internal users as: (1) a daily bulletin of air pollution; (2) a monthly bulletin of air quality; (3) a bulletin-notification on acute air pollution caused by adverse meteorological conditions.

An annual on air quality is issued in the Republic of Moldova. Information on air pollution is constantly updated on SHMS website (www.meteo.md) in the form of maps and pollution bulletins.

Air pollution indexes for a number of cities are published in the Statistical yearbook as well as in the National Report of the State of Environment.

Information on transboundary air pollution is presented annually to the Norwegian Institute for Air Research according to requirements of the CLRTAP.

The State Water Cadastre is issued annually by the Agency *Apele Moldovei* and the Agency on Geology and Mineral Resources.

The National Centre for Preventive Medicine of MoH publishes a monthly bulletin and an annual report on the sanitary and epidemiological conditions and uploads it on its website (<http://www.sanepid.md>).

Some important data are either not published at all or are hard to access. These are: (1) forest monitoring data and *Moldsilva* forest inventory results; (2) groundwater data and parameter measurement results produced by the Agency on Geology and Mineral Resources; and (3) data on pollution emission monitoring performed by IES (hard copy materials can be received free of charge at the IES).

5. National Environmental Internet Portals

All legally binding documents may be accessed in the State register of legal documents of the Republic of Moldova at the website of the Justice Ministry - <http://www.justice.md>. The portal is in the national and Russian languages.

The website of MoE can be found at <http://www.mediu.gov.md>. The site is in the national and Russian languages; the site in the English language has been announced but does not work. The site is not updated on a regular basis, as there is: (1) no information to be updated; (2) lack of human resources; (3) lack of financial resources.

The website of IES is available at <http://inseco.gov.md> in the national language.

The website of SHMS is available at <http://www.meteo.md> in the national, English and Russian languages.

The website of NSB is available at <http://www.statistica.md> in the national, English and Russian languages.

The website of the Environmental Information Centre of MoE is at <http://www.cim.mediu.md>, however access to the website is impossible, neither does the link to the Centre on MoE website work.

The Regional Environmental Centre of Moldova is accessible at <http://www.rec.md>. The portal is in the national and English languages. The Russian version of the site is under reconstruction.

6. Environmental Assessments and Use of Environmental Indicators

The National Report on the State of Environment in the Republic of Moldova in 2006 was published in the national language (*STAREA MEDIULU ÎN REPUBLICA MOLDOVA ÎN ANUL 2006 (raport national)*). It was published in 2007 and is available online in PDF format on the website of MoE (<http://www.mediu.gov.md/file/rapoarte/Raport%202006%20rom%20.pdf>). Similar reports were produced for 2003, 2004 and 2005 and are also available online in PDF or HTML. The reports were prepared under the supervision of MoE and the Institute of Ecology and Geography of the Academy of Science of Moldova. The reports are mostly of a descriptive

character. The reports are not used for the development of policies or decision-making. MoE has recently decided to produce national environmental reports every three years onwards.

Since 2008, IES has been publishing an annual report on environmental protection in the national language. The 2007, 2008 and 2009 reports are available online in PDF and HTML on MoE website http://www.mediu.gov.md/md/rap_nat/. The *Report on Environmental Protection in Moldova in 2009* includes the following main chapters:

- The institutional and legal aspects of environmental protection
- Protection of atmospheric air
- Protection and use of water resource
- Protection and use of flora and fauna; the state of natural protection areas
- Protection and use of fishery resource
- Protection of arable lands
- Management and use of mineral resource
- Management of waste and chemicals.

The reports contain data or results of indicators calculation (mainly as tables or text) on following environmental indicators from the *UNECE Guidelines for the Application of Environmental Indicators the Eastern Europe, Caucasus and Central Asia*: emissions into the atmospheric air from stationary and mobile sources; emissions of greenhouse gases and prognosis for 2010; freshwater uptake by use; erosion of soil by degree of erosion; consumption of mineral and organic fertilisers; area of forest and other wooded land; waste generation. The application of environmental indicators has not been set out in the legislation.

The 2009/2010 National Human Development Report *Climate Change in Moldova: Socio-Economic Impact and Policy Options for Adaptation* (<http://undp.md/publications/2009NHDR/index.shtml>) is a comprehensive analysis of climate change and natural disaster impact on crucial spheres of human activity such as water resources; ecosystems, agriculture; energy, transportation and public health.

In 2010, the Report *Children's Health and Environment in the Republic of Moldova* was prepared by MoE and MoH for the Fifth Ministerial Conference on Environment and Health, held in Parma. The Report in the national and English languages is available at <http://www.mediu.gov.md/file/rapoarte/Raport%20Parma%20ro.pdf>.

In 2006, 2007 and 2008, MoE published an environmental bulletin. 4 issues were published in 2006, 5 in 2007 and one in 2008.

7. Identification and Analysis of Gaps and Bottlenecks

In recent years the Republic of Moldova developed environmental information systems to meet the requirements of the national legislation and international obligations. Most of these systems were set up within international projects developed with donor states. This led to a rapid growth of data systems based on different, mostly commercial software. As a result data exchange became more difficult, the software is outdated, and its updating is costly.

The environment monitoring network was recently expanded and currently embraces a larger area, a larger number of environmental topics and new chemical components. However

these measures are still insufficient for complying with the requirements of the national legislation and international obligations. The monitoring network does not include, for instance, the diffuse pollution of surface waters and background pollution. An integrated environmental monitoring system has not been introduced yet.

The applied web interfaces do not give access to real time data, there are no other applications allowing for a computer-based and standardised data collection, monitoring and verification. Data on the Internet should be the main source for an open access to environmental data.

Large amounts of data are being gathered in different formats on paper requiring manual processing by the staff for digitalisation. There are no unified fixed criteria and standards for design of information system and for data assurance that leads to functioning of isolated and incompatible environmental information systems.

In the near future the Republic of Moldova has to make a broader use of environmental indicators, identified in the *UNECE Guidelines for the Application of Environmental Indicators the Eastern Europe, Caucasus and Central Asia*, in the national state of environment reports which would require establishing regular data flows.