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**DEVELOPMENTS IN IMPROVING ENVIRONMENTAL OBSERVATIONS, DATA  
COLLECTION AND REPORTING**

**IMPLEMENTATION OF RECOMMENDATIONS ON MONITORING AND  
INFORMATION MANAGEMENT FROM COUNTRY ENVIRONMENTAL  
PERFORMANCE REVIEWS**

**Ukraine**

Note by the secretariat<sup>1</sup>

*Summary*

The paper presents the recommendations on environmental monitoring and information management to Ukraine that the Committee on Environmental Policy approved on 9 October 2006 at its thirteenth session, and describes the situation in the country with environmental monitoring and information management as it was at that time.

The Working Group is expected to review progress made by Ukraine in the implementation of these recommendations and to provide the country delegation with possible guidance on how to improve performance to this end.

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<sup>1</sup> Prepared on the basis of materials of the second Environmental Performance Review of Ukraine (ECE/CEP/133).

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## **RECOMMENDATIONS OF THE SECOND ENVIRONMENTAL PERFORMANCE REVIEW OF UKRAINE**

### Recommendation 1:

*The Cabinet of Ministers should accelerate the adoption of the State Programme of Natural Environment Monitoring. The Ministry of Environmental Protection should reinvigorate the Interdepartmental Commission on Environmental Monitoring to serve as a driving force in:*

- (a) Monitoring the implementation of the State Programme of Natural Environment Monitoring;*
- (b) Ensuring the harmonization of monitoring formats, measurement and analytical methods, and data quality control and storage procedures used by different government bodies; and*
- (c) Coordinating existing monitoring networks and their extension, particularly those for background, transboundary (air and water) and marine environment monitoring.*

### Recommendation 2:

*The Cabinet of Ministers should designate or establish a lead environmental monitoring and information institution (e.g. an environmental agency) to assist the Ministry of Environmental Protection in:*

- (a) Developing a national electronic database of data communicated by operators of leading environmental monitoring and observation networks according to agreed indicator sets;*
- (b) Maintaining national registers of state monitoring stations and analytical laboratories;*
- (c) Developing environmental assessments using geographic information systems (GIS) and other modern techniques;*
- (d) Publishing the national state of the environment report and other assessment reports, based on modern indicators, for use in policy- and decision-making and public information;*
- (e) Training experts in monitoring and information management.*

### Recommendation 3:

*The Ministry of Environmental Protection, in cooperation with concerned sectoral Ministries and the State Statistical Committee, and in dialogue with business and industry, should improve*

*environmental monitoring and reporting by enterprises by:*

*(a) Reviewing current legal requirements for enterprises' routine data collection on their emissions, discharges and wastes and their reporting to environmental authorities, and preparing proposals for strengthening these requirements and making them as specific as necessary;*

*(b) Establishing pilot PRTRs in a few oblasts (such as Zaporizhzhia, where the prerequisites for such a register have already been met with the launch of a regional environmental database covering major polluters), which would eventually lead to the creation of a national PRTR;*

*(c) Considering incentives to facilitate the collection and transmission of environmental data by enterprises, as well as corporate voluntary environmental reporting; and*

*Helping enterprises train their staff members responsible for environmental data collection, analysis and management, and preparing and disseminating to enterprises guidance material using relevant international guidelines and manuals.*

## I. ENVIRONMENTAL MONITORING

### A. Air-quality monitoring

1. The State Hydrometeorological Service (Hydromet) monitors air quality in 53 Ukrainian cities at 162 fixed monitoring stations. To meet national monitoring regulations (one station per 50,000–100,000 city dwellers), nine more air quality-monitoring stations should be established. These are missing owing to lack of funds. The distribution of Hydromet stations for monitoring air quality is shown on Map 1. In addition, there are seven communal air-quality monitoring stations, six in Dniprodzerzhinsk and one in Komsomolsk. Thirty-three meteorological stations monitor pollution in atmospheric precipitation and 54 stations monitor pollution of the snow cover.

2. Ukraine's existing air observation network has not been reviewed or revised since its inception some 30 years ago or since the geopolitical changes of 1991. Within the Co-operative Programme for Monitoring and Evaluation of the Long-Range Transmission of Air Pollutants in Europe (EMEP programme), no new transboundary monitoring stations have been installed at Ukraine's northern and eastern borders to supplement the two existing stations (located in Rava Ruska and Svitebsk and not shown on Map 1) at the western borders.

**Map 1: Hydromet's network of air-quality monitoring stations**

*The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.*

**Source:** Hydromet, personal communication, 2005.

3. The mandatory air-quality monitoring programme covers seven pollutants: total suspended matter, nitrogen dioxide (NO<sub>2</sub>), sulphur dioxide (SO<sub>2</sub>), carbon monoxide (CO), formaldehyde (H<sub>2</sub>CO), lead and benzo(a)pyrene. For total suspended matter and carbon monoxide, samples are taken manually twice a day, while for the other five pollutants samples are taken four times a day. Some stations monitor the occurrence of additional pollutants, depending on regional and/or local emissions patterns and existing technical capacity.

4. Six stations located in Kyiv, Boryspil, Bohuslav, Odessa, Lviv and Crimea's Kara-Dagh Nature Reserve also monitor overall ozone concentrations and the state of the ozone layer. In total, 33 pollutants are monitored throughout the country. Air concentrations of volatile organic compounds (VOCs) (except benzo(a)pyrene), ozone (O<sub>3</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), mercury (Hg) and persistent organic pollutants (POPs) are not measured. The presence of 11 pollutants in precipitation and the snow cover is analysed.

5. Hydromet is the agency responsible for the State Programme of scientific and technical renovation of system of hydrometeorological observations and environmental pollution

monitoring network (1996). However, the goal of this programme to establish stations of continuous air pollution monitoring for NO<sub>2</sub>, SO<sub>2</sub> and CO have not been achieved due to lack of financing.

6. Hydromet processes monitoring data. However it does not transmit them to the Ministry of Environmental Protection (MEP) on a regular basis, except for detected exceedances, which are reported without delay not only to the MEP but also to the oblast and local authorities concerned.

7. Since 2000 the State Ecological Inspectorate (SEI) has slightly increased the number of monitored industrial pollution sources and enterprises. Today it takes sporadic air samples at 2,792 pollution sources at 927 enterprises. The total number of measured parameters is about 65.

8. The sanitary and epidemiological service of the Ministry of Health sporadically monitors air quality in residential and recreational areas, in particular near main roads, sanitary protection zones and apartment blocks; on the territory of schools, preschools and medical institutions in urban areas; and in workplaces. In addition, it measures air quality in residential areas in response to residents' complaints.

9. Overall, air-monitoring stations in Ukraine give a good indication of the population's exposure to air pollution without always capturing the full impact of pollution episodes. There is no interpretation of dose relationships between different data sets. The current air quality networks are generally unable to link air pollution levels with emission patterns and so identify activities that violate emission norms or air quality standards under normal operating conditions. Hydromet and the Ministry of Health do not harmonize or coordinate their monitoring programmes or methods.

## **B. Inland water monitoring**

10. Hydromet monitors hydrochemical water quality at 240 points at 374 gauges in 151 water bodies. Since 1999 this network has expanded by 25 observation points and 14 water bodies. However, during the same period the network of hydrobiological water-quality monitoring has decreased by ten observation points and eight water bodies. Today hydrobiological observations are conducted at 82 points at 159 gauges in 39 water bodies. Both networks provide data on a total of 46 parameters and help to assess chemical composition, biogenic parameters, and the presence of suspended and organic matter, main pollutants, heavy metals and pesticides. Samples are taken manually 4 to 12 times a year. Chronic water toxicity is monitored in 13 water bodies. Monitoring of oil products in surface waters in the Zaporizhzhia, Khmelnytskyi, Kherson, Volyn and Rivne Oblasts and in the Svitlovodsk area was discontinued in the 1990s and has not resumed since then. Hydromet continues to monitor transboundary water pollution at 15 points at 29 gauges, as it did in 1999.

11. Although the number of observation points conforms to the applicable water monitoring regulations, the monitoring network needs to be reviewed and updated. Today the observation points are located only on big rivers, large reservoirs and lakes near key urban areas. Diffuse pollution of surface waters is not monitored. There is no single background observation point on inland waters in Ukraine.

12. The SEI has increased the number of monitored gauges in water bodies by 99 since 2000. Today it takes sporadic water samples at 2,159 gauges. Over the same period the number of measured parameters has increased from 56 to 60.

13. There are other institutions involved in surface inland water monitoring. For instance, the State Committee for Water Management monitors water supply sources, transboundary watercourses and water abstraction by nuclear power plants. Since 1999 its network has increased by some 30 observation points (primarily at oblasts' borders and on transboundary stretches of the Dnister River), and today it includes 328 observation points in 116 rivers, 31 irrigation systems and 61 reservoirs. Hydrochemical and radiation parameters are measured everywhere; hydrobiological parameters are measured only in the Siverskyi Donets River. The Ministry of Health monitors sources of drinking water supply and recreational water sites along rivers and reservoirs.

14. The MEP developed and implemented recommendations on comparability of water monitoring data (2002). However there is no harmonized methodology for use by all institutions involved in surface water monitoring. Each governmental body uses its own software and databases. As a result, the monitoring data are distributed among various sources, disintegrated and not comparable.

15. Ukraine has expanded cooperation with its neighbors on monitoring of water quality in transboundary waters. With Romania it takes joint water samples from the Prut and Syrets rivers and exchanges bulletins concerning their water quality. Ukraine and Hungary take yearly joint water samples at 4 boundary gauges along the Tisa River. The two riparian States also exchange data on the results of another 20 samples that are taken individually.

16. The trend in groundwater monitoring has been towards a decrease in the number of observation sites – from 1,400 in 1996 to 1,148 in 2005. The network has been optimized since 2002 and today is operated by 17 field missions and 8 state (regional) enterprises, all subordinated to the State Geological Service, as well as by 25 oblast administrations and by enterprises pumping groundwater for specific uses. Groundwater monitoring sites are primarily intended to assess groundwater levels (availability) and natural geochemistry. Chemical parameters (22 in total) are measured manually once or twice a year, instead of quarterly as required by national monitoring regulations. There is generally no monitoring of anthropogenic impacts on groundwater. Occasional monitoring is done of levels of heavy metals and pesticides. The sanitary and epidemiological service of the Ministry of Health performs chemical analyses of groundwater intended for drinking water.

17. The significant gaps in the data on groundwater quality reflect the insufficient number of monitoring experts, the inadequate financing and policymakers' decreasing attention to this type of data.

### **C. Coastal water monitoring**

18. Hydromet runs a coastal water monitoring network comprising 74 background monitoring stations, 9 dumping monitoring stations and 14 research stations, all located in the coastal areas

of the Black Sea and the Sea of Azov. Although the total number of stations has increased by 13 since 1999, the current observation network falls short of meeting the requirements of national monitoring regulations. At least 47 more background stations and 13 more dumping monitoring stations are needed. Today between 16 and 26 hydrochemical parameters and bottom sediments are measured at the existing stations. No hydrobiological parameters are monitored.

19. The State inspectorates for the protection of the Black Sea and the Sea of Azov operate their own monitoring systems. Their responsibilities include monthly sampling and analysis of pollution sources located along the coast; monitoring of discharges from ships and pollution from prospecting and operational activities for oil, gas and construction materials on the sea shelf; and oversight of the exploitation of marine living resources. The Scientific Centre for Marine Ecology in Odessa, which serves as a monitoring centre for the Black Sea Environmental Programme, also performs some monitoring activities in accordance with the Programme of State Environmental Monitoring of the Black Sea and the Sea of Azov (2004). The Ministry of Health monitors water quality at the beaches.

#### **D. Soil monitoring**

20. Hydromet monitors soil pollution of agricultural lands by pesticides at 35 plots in 18 oblasts and by heavy metals in 20 settlements. Samples are taken every five years, while samples for heavy metals in the cities of Konstantynivka and Mariupol are taken annually. The observation network has not undergone any changes since the first EPR.

21. The SEI takes soil samples sporadically at more than 600 industrial sites in the country. Since 2000 the total number of parameters measured has increased from 18 to 27. Both the SEI and the Ministry of Health institutions take sporadic soil samples on agricultural lands. The Ministry of Health also monitors soil quality in residential and recreational areas in cities.

#### **E. Monitoring of biodiversity, including in forests**

22. Owing to budgetary constraints, only species of high commercial value (trees, fish, game) are regularly monitored. Surveys and inventories of other flora and fauna species to be included in the national registry (cadastre) have suffered from funding limitations. Some studies, such as the preparation of the State inventory of marine mammals of the Black Sea and the Sea of Azov, have received particular attention because of international assistance or the public appeal of the species involved.

23. The Ukrainian Research Institute of Forestry and Forest Improvement in Kharkiv conducts forest-monitoring surveys in Ukraine. It operates a network of 1,200 monitoring plots in 16 oblasts under the UNECE's International Cooperative Programme on Assessment and Monitoring of Air Pollution Effects on Forests (ICP Forests) as well as 120 monitoring plots in 7 oblasts in cooperation with the United States' Forest Health Monitoring Programme. Data on growing stock are collected for all monitoring plots. Parameters for trees and vegetation are regularly assessed on all plots, while soil parameters are measured on some of them. Another ongoing project focuses on the collection of data on carbon sequestration in forests.

## **F. Radioactivity monitoring**

24. Hydromet monitors radioactive contamination of the atmosphere through daily measurements of gamma-radiation exposure (GRE) doses at 179 stations, radioactive fallout from the atmosphere at 58 stations and radioactive aerosol content in the air in six cities. To meet the requirements of national monitoring regulations, one more GRE station and two more aerosol-monitoring stations need to be established or reactivated. Hydromet measures radioactive contamination of surface waters in eight bodies of water. In the vicinity of nuclear power plants, Hydromet measures radioactive contamination by caesium-137 of surface waters at 19 points (up from 11 points in 1999) and soil contamination at 29 points. Although monitoring of strontium-90 is required by national regulations, it is not being done.

25. The Ukrainian Research Institute of Environmental Problems operates a "GAMMA" system that monitors continuously background radioactivity in the city of Kharkiv and near the Zaporizhzhia and Rivne nuclear power stations. Monitoring of three other nuclear power stations is expected to begin in the near future.

26. Monitoring laboratories of the Ministry of Agrarian Policy perform spot checks of radioactivity concentrations in food products.

27. The Ministry of Emergencies monitors GRE doses at 10 automated points near nuclear power plants. It plans to install 10 more points in the near future. Within a 30-kilometre radius of the Chernobyl accident site (the Exclusion Zone), the Ministry of Emergencies monitors (a) radionuclide concentrations at 13 points and two production facilities, (b) radionuclides in atmospheric precipitations at 29 points, and (c) air concentrations of "hot" particles at nine points. The International Radioecology Laboratory of the Chernobyl Centre for Nuclear Safety, Radioactive Waste and Radioecology in Slavutych monitors radiation impact on biota in the Exclusion Zone.

## **G. Analytical laboratories**

28. Hydromet operates 45 analytical laboratories of various types in polluted areas of the country. In addition, two of its analytical entities analyse samples taken in marine waters. 90 per cent of these laboratories have been accredited. Although Hydromet has been provided with some new monitoring and analytical devices and equipment, overall its instrumental base still requires an overhaul. In early 2005, of its 1,799 devices and outfits, 1,231 were either not operational or outdated.

29. The SEI and its offices throughout the country operate 53 analytical laboratories. Since the adoption in the early 2000s of a plan to certify the sampling and evaluation methods used by these laboratories and to harmonize these with relevant ISO/EU standards, 42 methods have received formal certification. The updating of national monitoring standards is scheduled for completion by the end of 2007. Methodological documentation is not coordinated with that of other government agencies conducting similar monitoring activities.

30. The State Committee for Water Management has 40 analytical laboratories, all of which are certified. The State Geological Service operates four central (accredited) laboratories and eight “trimmed” state enterprise laboratories, only two of which are accredited.

31. The Ministry of Health has analytical laboratories in every oblast and most rayons. They conduct sanitary, chemical and bacteriological analysis of samples. Radiological analysis is conducted by laboratories in the Chernobyl, Polessk and Ivanovsk rayons of Kyiv Oblast – the areas that suffered most from the Chernobyl accident.

32. Overall, the number of laboratories run by the public authorities has never been questioned in Ukraine, although in western countries there has been a tendency to reduce the number of laboratories, with the remaining ones specializing, to the extent possible, in specific areas.

33. From 2000 to 2004 the number of enterprise laboratories in Ukraine conducting air monitoring decreased from 479 to 445, while the number of such laboratories monitoring water quality increased from 608 to 703 and those analysing soil and waste increased from 35 to 62. While 66 per cent of these laboratories were accredited in 2003, two years later some 92 per cent were accredited. The JSC Concern Stirol in Horlivka (Gorlovka) in Donetsk Oblast is an example of an enterprise that operates a modern self-monitoring system. It has five automated stations monitoring air quality at the enterprise and in its vicinity. It is ISO 14001 certified and has a modern environmental management system.

34. The SEI is checking compliance by enterprise laboratories with accreditation documentation. In 2004 a total of 207 laboratories throughout the country were checked. In 2002 the SEI together with the State Standardization Committee conducted interlaboratory comparisons of air and water samples from 19 enterprise laboratories. In 2003–2004 the Ukrainian Research Institute of Environmental Problems jointly with the State Standardization Committee conducted similar exercises.

#### **I. Technical assistance**

35. In 2001 Italy provided computer equipment to 35 analytical laboratories in Ukraine to support air-monitoring activities. The 1996–2000 Tacis programme to set up an accident and emergency warning system for the Ukrainian and Moldovan segments of the Danube Basin resulted in the creation of two international reporting centres, in Uzhhorod (western Ukraine) and Izmail (southern Ukraine). Water monitoring equipment was supplied to Hydromet in 2004 under the tripartite (Belarus, Russian Federation and Ukraine) UNDP/GEF–EU/Tacis project for a strategic action plan for the Dnieper Basin. The equipment is currently idle, as it does not meet national certification requirements. In 2003, with the assistance of Hungary, an automated water-quality monitoring station was established on the Ukrainian stretch of the Tisa River.

## II. INFORMATION MANAGEMENT AND REPORTING

### A. Information systems

36. Since 2002 the Ukrainian Research Institute of Environmental Problems has been developing databases on the atmosphere and hydrosphere and on instrumentation and methodologies used by MEP monitoring networks. These databases cover relevant monitoring stations and analytical laboratories of the SEI, Hydromet and (partly) the State Geological Service. The data include locations of monitoring stations, measured parameters, measurement periodicity, equipment and measurement devices, and analytical methods. The databases list some air-monitoring devices in use that date back to 1946 and water-quality monitoring devices dating from 1961.

37. An ad hoc Information and Analytical Centre was established in 2004 to ensure information exchange between the Ministry, its local offices and environmental monitoring subjects. The Centre operated at the MEP during part of 2005 but stopped functioning owing to lack of financing. The MEP intends to renew functioning of this centre on a pilot basis by providing it with human and other resources and linking it online with major monitoring networks (for air, water, radiation and soil) to ensure the availability of up-to-date monitoring data for decision-making in case of environmental emergencies.

38. The State Geological Service has established a groundwater database as a subsystem of the State Water Cadastre. The database contains 18 types of data sets, including on groundwater reserves and use, the location of boreholes and the results of analyses of groundwater samples.

39. The Ukrainian Research Institute of Forestry and Forest Improvement is developing a database on the environmental status of forests in Ukraine based on data from the State Forestry Service, data collection under the UNECE ICP Forests programme and the Forest Health Monitoring Programme financed by the United States, and remote sensing data.

### B. Environmental statistics

40. The State Committee of Statistics updated existing forms of statistical reporting and introduced new ones in 2003. It added new pollutants to the air emissions statistical form, drawing from the applicable international conventions on environment and transport. Methods for preparing pollution emissions inventories were prepared and harmonized with the CORINAIR/EMEP guidelines. Statistical data collection now includes separate data for air emissions from (respectively) private vehicles, transport enterprises, rail and air transport and agricultural vehicles. Collection of statistical data on hazardous waste is now based on a new hazardous waste classification (harmonized with international ones) and an updated list of wastes. The ISIC classification of economic activities is applied to most statistical data-gathering activities. Work is underway to harmonize the national environmental expenditures classification with that of Eurostat. However, the main annual environmental statistics publications of the State Committee of Statistics, *Environmental Protection in Ukraine* and *Protection of Atmospheric Air*, do not reflect the above-mentioned changes.

41. The State Committee for Water Management collects data on water abstraction, supply and losses and on wastewater discharges into water bodies, including pollutants in wastewater, on the basis of a relevant statistical form.

### C. Environmental assessments and reporting

42. The Ministry of Environmental Protection initiated the development of integrated environmental assessment indicators to help in policy planning. The integrated indicators are based on a set of indicators characterizing conditions in the atmosphere and hydrosphere as well as natural resource use and climate. The integrated indicators make it possible to rate the environmental situation in an oblast on a scale of “satisfactory” to “very bad”. Map 2 shows the results of such assessment by oblast. The materials are used in the preparation of the regional and national environmental atlases, which are taken into account in environmental policy planning.

43. Until 2002, national reports on the state of the environment (SoE) in Ukraine were published every year in Ukrainian and English pursuant to the Law on Environmental Protection. They were submitted to the Parliament and to the Presidential Administration, the Cabinet of Ministers, ministries, government departments, libraries, academic institutions and NGOs. For instance, 2,000 copies were published in 2001. Electronic versions of the reports were produced on CD-ROM (for principal report users) and posted on the MEP website.

44. The 2002 SoE report, published in 2003 in Ukrainian only, deviated from the structure of the previous reports. In fact, it was a compilation of the oblast SoE reports that are published yearly by oblast environmental authorities. The national report contained no assessment of the country’s situation or the effectiveness of its environmental protection measures. That same year a comprehensive *National Report of Ukraine on Harmonization of Society’s Activity in Natural Environment* was published in three languages (Ukrainian, English and Russian) on the occasion of the fifth Pan-European Ministerial Conference “Environment for Europe” held in May 2003 in Kyiv. This report actually repeated information presented earlier in the 2001 SoE report. No new comprehensive report has been published in Ukraine since 2003, owing to continuous reorganizations within the MEP and in particular its monitoring division. The publication of three annual SoE reports (2003, 2004 and 2005) was expected in 2006. A draft of the 2004 SoE report has been posted on the MEP website. The lack of a comprehensive overview of the country-level situation in the reports substantially decreases their usefulness for decision-making.

45. For future SoE reports, the MEP has decided to deviate from the past approach of having the report prepared through a designated focal point at the MEP. According to an order issued in 2005, the responsible institution will be selected annually through tendering. This new approach may jeopardize the consistency and continuity of the report’s preparation. It would be contrary to the *Guidelines for the Preparation of Governmental Reports on the State and Protection of the Environment* endorsed by the Kiev Ministerial Conference “Environment for Europe” in 2003 that recommended the designation of “a permanent, specially authorized State environmental protection body to be responsible for the production and subsequent distribution of reports”.

**Map 2: Results of integrated environmental assessments by oblasts in Ukraine**

The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.

*Source:* Kharkiv Research Institute of Environmental Problems, personal communication, 2005.

46. Reports from other bodies also contain environmental information. The Ministry of Emergencies publishes an annual report *Safety from Natural and Man-Made Disasters in Ukraine and Principal Efforts to Enhance It*. It also publishes the results of radiation monitoring in the *Bulletin of the Ecological State of the Exclusion Zone and Area of Mandatory Resettlement* issued twice a year and in the *Chernobyl Herald* newspaper. Hydromet irregularly publishes environmental pollution bulletins. The State Geological Service publishes yearbooks on groundwater budget, on forecasted groundwater tables and on groundwater conditions. These publications have limited distribution and are not easily accessible by the general public. The State Committee for Water Management runs the country's water cadastre but does not publish water data.

47. Overall, the results of environmental monitoring are not efficiently used to assess environmental conditions, the driving forces behind changes in the environment, the effectiveness of environmental protection measures, nor are they used effectively for making decisions, elaborating policy or enhancing public awareness of the issues in Ukraine. After recent accidents with serious environmental consequences (such as the explosions at a military ammunition warehouse in Zaporizhzhia Oblast in 2004) the authorities have started expressing

concern regarding the lack of comprehensive and continuous data and information on the environment. There is a need to significantly improve coordination of activities of environmental monitoring subjects at the local and national levels.

### **III. POLICY AND DECISION-MAKING FRAMEWORK**

#### **A. Institutional setting and coordination**

48. The Resolution of the Cabinet of Ministers No. 391 of 1998 “On approval of the regulation on the state environmental monitoring system”, endorsed the Regulation of the State Environmental Monitoring System (SEMS). The Resolution of the Cabinet of Ministers No. 528 of 2001 “On introducing amendments into the Resolution of the Cabinet of Ministers No. 391 of 30 March 1998” introduced some amendments to the Regulation to enable better organization and closer coordination among the entities within SEMS. For this, an Interdepartmental Commission on Environmental Monitoring was set up, departmental standards were created for the procedure that the SEMS entities would use to monitor the environment, and indicators to be used in environmental monitoring were clarified.

49. Until 1999, a total of 10 environmental monitoring entities from different ministries, departments and services were part of the SEMS; since 2000, this number has been reduced to eight, partly owing to administrative reforms of the central executive authorities.

50. The Resolution of the Cabinet of Ministers No. 1551 of 2001 “On establishing the Interdepartmental Commission on Environmental Monitoring” approved the mandate of the Interdepartmental Commission on Environmental Monitoring, led by the Minister of Environmental Protection, and its membership. This membership includes senior representatives of all SEMS entities. The Commission set up sections dealing with air monitoring, water monitoring, land and waste monitoring and information support, as well as a board of experts. However, the effectiveness of the Commission is questionable, as it has not met since 2004. The Ministry of Agricultural Policy and the State Committee on Land Resources do not have units responsible for establishing the national system of environmental monitoring.

51. To facilitate data exchange among the SEMS entities, the MEP approved the Procedure for Information Exchange between the Ministry’s Bodies and Other Environmental Monitoring Entities When Conducting Prescribed Observations of the Environment (Order No. 323 of 2002). There is no evidence that this regulation has borne fruit, as Ukraine has no interlinked or centralized environmental database. The fact that the national SoE report, which in the past was the outcome of inter-agency information exchange, has not been published since 2003 indicates that the regulation has not had the desired effect.

#### **B. Policy and regulatory developments**

52. Ukraine has been active in developing procedures, guidelines, manuals and programmes for making environmental monitoring comprehensive and well coordinated. All too often, guiding and methodological efforts have not been supported by prioritization efforts and increased budgeting. As a result, the situation in the field relating to the quantity of monitoring

stations and equipment, the parameters measured, and data management and data delivery to decision-making bodies has not improved much since the first EPR of Ukraine.

53. Resolution of the Cabinet of Ministers No. 343 of 1999 approved the Procedure for Arranging and Conducting Air-Protection-Related Monitoring. The MEP is giving increased attention to producing guidance for the water-quality monitoring network. This can be seen from the adoption of the following:

(a) Standard Interdepartmental Guidelines for the Organization and Conducting of State Water Monitoring (Order No. 485 of 2001);

(b) Recommendations for Inter-comparison of Water Monitoring Data, and Guidelines and Requirements for the Equipment of Model Water Monitoring Sites (Order No. 325 of 2002);

(c) Organization and Conducting of Monitoring of Surface Water Pollution (Order No. 89-M of 2003).

54. In 2002, the MEP approved Guidelines for the Inventory of Analytical Laboratories (Order No. 325 of 2002), which led to the creation of three databases at the Ukrainian Research Institute for Environmental Problems (see section II). The same year the MEP approved a Programme to Improve the Quality of Background Observation of the Pollution and Monitoring of the Natural Environment (Order No. 57 of 2002). The programme established requirements for the environmental monitoring activities of Hydromet and improved their coordination with the monitoring activities of other MEP bodies. Presidential Decree No. 681 of 2005 transferred Hydromet from the MEP to the Ministry of Emergencies. This may lead to a refocusing of Hydromet activities on monitoring natural disasters like floods, avalanches and storms. If no additional resources are allocated to this type of monitoring, routine environmental monitoring may suffer.

55. To promote a programmatic approach to further development of environmental monitoring in the country, the MEP approved Recommendations on Methods for the Preparation of Regional and State Environmental Monitoring Programmes (Order No. 487 of 2001), which are now being introduced at the regional level. Nine oblast monitoring systems were set up by mid-2005 on the basis of the methodology developed by the Ukrainian Research Institute of Environmental Problems. An example is the multipurpose environmental monitoring data analysis system for Zaporizhzhia Oblast presented in Box 1.

56. Environmental monitoring in Ukraine today is seriously underfinanced. For instance, since 1999 the environmental monitoring activities of Hydromet have received no more than 10 per cent of the funds it requires annually to pursue its monitoring activities. As of 2003, monitoring no longer receives supplementary financing (in addition to funds from the state budget) from the State Environmental Fund. Hydromet formerly received Hrv 300,000 a year for this purpose.

57. In 2004 the Cabinet of Ministers approved the Concept of a State Programme of Natural Environment Monitoring (Resolution No. 992-p of 2004); instructed the MEP to develop, in

cooperation with other concerned government bodies, the Programme itself, covering the period 2006–2010; and pledged Hrv 200 million for its implementation once it had been approved by the Cabinet of Ministers. The MEP prepared a draft programme. The autumn 2005 version was a framework document with a very general breakdown of activities. It was understood that detailed actions along with expenditures and expected outputs would be submitted annually to the Cabinet of Ministers once the framework programme had been adopted. The list of activities in the draft programme looked comprehensive but lacked focus and priorities. Nevertheless, should it be approved, important activities would receive a push, such as the modernization of monitoring stations, the optimization of networks, the creation of background and additional transboundary monitoring stations, and the establishment of computerized databases for multiple users.

**Box 1: The oblast environmental monitoring programme in Zaporizhzhia**

On 27 July 2001, the Zaporizhzhia Oblast Council adopted an environmental monitoring programme for the oblast for 2001–2010. Developed in collaboration with all oblast governmental bodies, major polluting enterprises and local NGOs and with support from the regional environmental fund, the programme is based on a format and procedure for data submission managed by Ecocentre. This company operates an Internet-based database to manage data inputs from all of the oblast's monitoring networks, including those of Hydromet, the Ministry of Health and the State Committee for Water Management and emissions data from polluting enterprises. Implementation is monitored by a regional interdepartmental commission led by a vice-head of the oblast administration. Some Hrv 16 million from various sources have been earmarked for the programme's implementation. It has served as a basis for developing other regional programmes, such as a programme to resolve environmental crises in Zaporizhzhia for 2001–2010 that has involved some 100 polluting enterprises; a programme on environmental protection, rational use of natural resources and environmental security for Zaporizhzhia Oblast for 2003–2010; a programme for rehabilitation of mining sites; and a programme for handling hazardous wastes.

*Source:* Zaporizhzhia Department of Ecology and Natural Resources, personal communication, 2005.

58. Amount of financing for 2006 for the purpose of establishing the state system of environmental monitoring is approximately US\$ 3.5 million. These expenditures are funded from the State Environmental Fund and are higher than in any of the previous years.

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