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Report of the Working Group on Environmental Monitoring and Assessment on its thirteenth session

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I. Introduction

1. The thirteenth meeting of the Working Group on Environmental Monitoring and Assessment was held on 1 and 2 November 2012 in Geneva.

A. Attendance

2. The meeting was attended by representatives of ministries of environment and statistical offices from the following member States of the United Nations Economic Commission for Europe (ECE): Armenia, Austria, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Finland, Georgia, Kazakhstan, Kyrgyzstan, Montenegro, Republic of Moldova, Russian Federation, Serbia, Switzerland, Tajikistan, the former Yugoslav Republic of Macedonia, Turkmenistan, Ukraine and Uzbekistan.

3. A representative of the United Arab Emirates participated under article 11 of the terms of reference of ECE.

4. Representatives of the European Environment Agency (EEA) and the World Health Organization's European Centre for Environment and Health (WHO/ECEH) also attended.

5. A representative of the Interstate Statistical Committee of the Commonwealth of Independent States was also present, as were representatives from two Regional Environmental Centres: the Regional Environmental Centre for Central Asia and the Regional Environmental Centre for the Republic of Moldova (REC-Moldova).

6. Representatives of the Cadaster Institute of the Russian Federation and of the non-governmental organization Zoï Environmental Network also took part in the meeting.

B. Adoption of the agenda

7. The Working Group adopted its agenda, as set out in document ECE/CEP/AC.10/2012/1.¹

C. Election of officers

8. The Working Group elected its Bureau as follows: Ms. Vanya Grigorova (Bulgaria) was elected Chair and Ms. Irina Komosko (Belarus) and Mr. Yuri Tsaturov (Russian Federation) were elected Vice-Chairs.

D. Adoption of the report of the twelfth session

9. The Working Group adopted the report of its twelfth session, as contained in document ECE/CEP/AC.10/2011/2.

¹ Documents and other materials from the session are available on the ECE website from <http://www.unece.org/index.php?id=28869>.

II. Outcomes of the eighteenth session of the Committee on Environmental Policy of concern to the Working Group

10. The secretariat presented the relevant outcomes of the eighteenth session of the Committee on Environmental Policy held in April 2012. A Vice-Chair of the Working Group on Environmental Monitoring and Assessment had reported to the Committee on progress made during the period 2009–2011, and the Committee had expressed its high appreciation for the work that had been carried out. One of outcomes of the work had been the publication of the *Guidelines for Developing National Strategies to Use Air and Water Quality Monitoring as Environmental Policy Tools: Eastern Europe, the Caucasus, Central Asia and of South-Eastern Europe* (ECE/CEP/168).

11. At its eighteenth session, the Committee on Environmental Policy had renewed mandate of the Working Group for 2012–2014 (ECE/CEP/2012/6, annex). The renewed mandate called upon the Working Group, in particular, to contribute to establishing a regular process of environmental assessment and the development of the Shared Environmental Information System (SEIS) across the region jointly with EEA and its partners, as well as to help in improving environmental assessments, including the use of the methodology of the Europe's Environment — An Assessment of Assessments (EE-AoA) report.

III. Development of methodologies and guidance documents

12. Following the discussions held at its twelfth session (ECE/CEP/AC.10/2011/2, para. 68), the Working Group considered the draft guidelines on monitoring biodiversity, as well as a proposal to develop guidelines on monitoring chemical contamination of soil, similar to those developed earlier on air and water quality, with the aim of providing guidance to the countries of Eastern Europe, the Caucasus, Central Asia and interested countries of South-Eastern Europe to help make monitoring a practical tool for environmental policy.

A. Draft guidelines on biodiversity monitoring

13. A consultant to the secretariat presented draft guidelines on biodiversity monitoring (ECE/CEP/AC.10/2012/3). The document aimed at assisting the target countries in the development of plans and strategies for biodiversity conservation and sustainable use, the mainstreaming of biodiversity conservation objectives across policy sectors and assessing progress in achieving policy targets and the effectiveness of conservation measures. Minimization of health, environmental and socio-economic risks resulting from biodiversity loss and ecosystem degradation, as well as the maximization of benefits from biodiversity and ecosystems, were also main objectives of the draft guidelines.

14. The Working Group welcomed the draft guidelines and provided comments. The key debates focused on the question of how to achieve the maximum effectiveness of the biodiversity monitoring systems while reducing the costs. Proposals were made to supplement the draft guidelines with concrete examples of how that cost minimization objective had been met in practice in some of the member countries, including experiences with prioritization of national goals, stepwise implementation of biodiversity monitoring, international cooperation and public participation. It was also proposed, in particular: (a) to add a subsection on principles and a practical, stepwise approach to setting up or upgrading national biodiversity monitoring systems; (b) to supplement the list of biodiversity indicators with a sample indicator set which would contain more examples of ecosystem-

level biodiversity indicators; and (c) to address adaptive management approaches that dealt with desertification and land degradation related pressures on biodiversity.

15. The Working Group gave a general approval to the draft guidelines as contained in document ECE/CEP/AC.10/2012/3. It invited the secretariat to revise the draft guidelines to reflect the comments and proposals for additions made and to submit them to the Committee on Environmental Policy at its session in October 2013 for adoption. Once adopted by the Committee, the guidelines would be published in electronic format in the course of 2014.

B. Discussion on the scope and focus of possible guidelines on chemical contamination of soil

16. The Working Group considered the possible scope, focus and main elements for guidelines on monitoring chemical contamination of soil. An expert from the Federal Environment Agency of Austria presented an overview of the status of soil policy and monitoring on diffuse soil contamination focused on European Union (EU) policy. The presentation addressed general aspects and relevant definitions, EU soil policy development issues, including examples for different soil monitoring systems, key issues for monitoring diffuse soil contamination, recommendations for soil monitoring and a proposed outline for the future ECE guidelines for monitoring diffuse soil contamination, which followed the structure of the guidelines on air and water quality monitoring.

17. During the discussions, it was proposed that the guidelines explain how to take decisions on further actions on the basis of data received from monitoring and assessment of different levels of soil contamination. Another proposal was to include special provisions to help national soil surface monitoring systems to identify and assess regional background values, which then could be used as a basis for preparing recommendations for the management of soil surface quality.

18. The Working Group invited the secretariat to prepare draft guidelines on monitoring chemical contamination of soil for consideration at its next session, taking into account the discussion held and the proposals made.

IV. Support to establishing a regular process of environmental assessment and developing the Shared Environmental Information System

19. The Working Group considered ways that it could strengthen its efforts or new efforts that it could undertake to contribute to the development and establishment of a regular assessment and reporting process, including developing SEIS, as decided by the Seventh "Environment for Europe" (EfE) Ministerial Conference (Astana, September 2011). The discussion focused on the main SEIS components, linking them, where appropriate, to relevant parts of the Working Group's new mandate.

20. The Working Group also considered the need to improve cooperation and coordination among all relevant partners in the process of developing SEIS and establishing regular assessment throughout the pan-European region.

A. Conceptual and institutional framework for further development of the Shared Environmental Information System

21. A representative of EEA informed the Working Group about the progress made in revising and further developing the draft outline for the establishment of a regular assessment and reporting process underpinned by the gradual development of SEIS. The document had been submitted to the Committee on Environmental Policy at its eighteenth session in April 2012 and was open for comments and input from countries and organizations in the region.

22. EEA emphasized the particular roles of the ECE Working Group on Environmental Monitoring and Assessment and the Joint Task Force on Environmental Indicators, as key contributors to the implementation of the Astana mandate. Their planned activities were expected to assist the countries in the region in both the gradual development of SEIS and the development of a regular assessment and reporting process. The work of the two bodies needed to address elements across the entire monitoring-to-reporting chain.

23. Since the two bodies were playing an important role in SEIS development across the region, as well as in the development of a regular reporting process, a better interlinkage between the activities and deliverables of the two groups should be envisaged. In that respect, the indicator work of the Joint Task Force should lead to the effective production of common environmental indicators across the region underpinned by regular data flows. For its part, the Working Group, with the support of EEA and other international bodies, could further work with the countries towards the preparation of the next pan-European environmental reporting cycle (2014–2015) by using the produced indicators and related assessments as key inputs.

24. The next step in the process would be a mid-term evaluation to be undertaken in 2013 for which a brief progress report had to be produced referring to the implementation of article 14 of the Astana Ministerial Declaration. In order to achieve the implementation of that mandate, it was necessary to move towards a regular assessment of the state of the environment. The aim was to achieve a regular review process, which started with the regular production of the national state-of-the-environment reports. That was not yet the case in some of the member countries, as revealed by the recent exercise of the EE-AoA. It was important to use a series of available instruments, such as, for example, the EEA AoA portal, and to try to take advantage of all the information available in the countries, engaging all partners and institutions that held such information. That was a stepwise and gradual process, and progress would be assessed at every stage and tailored according to the needs of each country.

25. EEA intended to organize a high-level meeting in March 2013 dedicated to Eye on Earth and SEIS in order to bring together member countries, international organizations, the business community and other stakeholders in an effort to streamline and better coordinate various initiatives and to engage the broader community in the process.

26. The representative of the Regional Environmental Centre for Central Asia gave an overview of the activities undertaken by his organization aimed at supporting the development of SEIS in Central Asia. Currently, the Centre implemented three types of projects promoting SEIS in the region, which were aimed at: (a) ensuring the involvement of Central Asia in the process of assessing needs and opportunities for SEIS; (b) raising awareness of stakeholders on SEIS and obtaining their support for covering SEIS issues in the future cooperation between the European Union and Central Asia on water and environment; and (c) supporting Central Asian countries in addressing SEIS-oriented recommendations of the Central Asian component of AoA. The speaker presented the scope and outcomes of implemented and ongoing activities, and focused on key recommendations

to be followed up for the realization of the overall objective of the gradual development of SEIS in the Central Asian region.

27. A member of the secretariat of the ECE Convention on Long-range Transboundary Air Pollution informed participants about that Convention's contributions to the development of SEIS. According to the provisions of the Convention, Parties exchanged information, inter alia, about monitoring of ambient air pollutant concentrations; assessments of damage caused to ecosystems, materials and human health; development of cost-effective measures and best available techniques to reduce emissions; and development of policies and strategies to abate air pollution. The presentation focused on reporting air pollutant emissions, and in particular on a complex flow of data between Parties, a central database and various users and various reporting systems. A large part of the reported emission data was geographically explicit. Also, the information on adverse effects of air pollutants was provided regularly in fine spatial resolution. Examples of such reported data and analysis of adverse effects of air pollution on soils, surface waters, forests and vegetation were presented.

28. A member of the secretariat of the ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) presented parts of regional assessments of transboundary waters (mainly of status, pressures and cooperation) under the Convention, for which SEIS elements could potentially be used. Future plans in that area involved the preparation of: (a) a "special edition" assessment of selected river basins looking at the water-food-energy-ecosystems nexus, namely intersectoral linkages and trade-offs; and (b) a comprehensive assessment of transboundary waters in 2019–2021. The Water Convention secretariat confirmed its interest in exploring possibilities for cooperation in implementing SEIS to support assessing waters on the transboundary level; one challenge faced, however, was the expansion of the geographical scope of the Convention beyond the pan-European region, with its recent global opening to accession by all United Nations Member States.

29. A member of the secretariat of the ECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention) and its Protocol on Pollutant Release and Transfer Registers (Protocol on PRTRs) presented provisions of and activities under the Aarhus Convention and its Protocol promoting effective access to environmental information. Areas for cooperation in promoting SEIS were also identified, including: (a) at the policy forums, namely, the Working Group of the Parties to the Aarhus Convention and the Working Group of the Parties to the Protocol on PRTRs; (b) at relevant expert meetings (e.g., the Task Force on Access to Information); (c) through capacity-building activities, including a subregional workshop on PRTRs to be held in the first part of 2013; (d) through electronic tools (the Aarhus Clearinghouse and PRTR.net); and (e) strengthening cooperation at the national level between national focal points for the Aarhus Convention, the Protocol on PRTRs, the Working Group on Environmental Monitoring and Assessment and EEA.

B. Latest developments in environmental monitoring at the national and subnational levels

30. The Working Group considered developments since its last meeting in November 2011 concerning major ongoing activities in countries, as well as any new plans, regarding the modernization and upgrading of national monitoring networks and information systems; strengthening monitoring of specific environmental media; improvement of data handling; preparation of indicator-based environment assessment reports; practicalities of using the methodology of the EE-AoA at the national level; and use of modern technologies for better dissemination of environmental information.

31. A representative from the Russian Federation made a presentation on the development of environmental monitoring in Moscow, focusing on the changes that had occurred over the past seven years in the modernization and development of monitoring systems, current tasks and future perspectives. The structure of the environmental monitoring system of Moscow at present included a network of more than 30 automatic stations for monitoring ambient air quality and a mobile laboratory monitoring 180 sites a year; 45 surface water monitoring sites and 1 automatic surface water monitoring station; more than 1,300 monitoring sites for soil monitoring; more than 160 groundwater quality monitoring sites; 14 landslide monitoring sites; 1 stationary post for noise monitoring and 1 mobile laboratory monitoring noise at 140 sites a year; and direct tailpipe automatic emissions control systems monitoring industrial emissions of 58 enterprises. All data on the state of the environment of Moscow was received and stored in the city database of environmental monitoring information. Monitoring data were analysed and displayed on the environmental map of Moscow.

32. A representative of EEA informed participants about the ongoing project with the Russian Federation on the exchange of information on air quality monitoring within the framework of bilateral cooperation, which provided a good example of SEIS working in practice.

33. Fifteen countries had submitted written reports, which had been circulated among the members of the Working Group and made available on the website prior to the meeting.

34. According to the written reports, some countries had progressed in adopting and implementing new legislative regulations, action plans and state programmes to support monitoring networks (Bosnia and Herzegovina, Russian Federation, Serbia, Tajikistan, the former Yugoslav Republic of Macedonia and Uzbekistan). Armenia had acquired nine automated air-monitoring stations and computer equipment and software packages for upgrading the infrastructure of data collection, processing and storage and the provision of electronic records. Azerbaijan, under the Cooperative Programme for Monitoring and Evaluation of the Long-range Transmission of Air Pollutants in Europe (EMEP) programme, had installed a new station for background air monitoring in 2012 and had created an infrastructure for ensuring the station's operation.

35. By the end of 2011, Belarus had undertaken activities on the phased optimization of 9 of its 11 monitoring networks, as well as installed and operationalized 14 automated air monitoring stations in the cities. Georgia was in process of testing the first automated air quality monitoring station for monitoring a number of important pollutants. The former Yugoslav Republic of Macedonia had strengthened its air quality monitoring, especially equipment and software for air quality monitoring, meteorological measurements and air quality data management. The Republic of Moldova had installed equipment for monitoring particulate matter (PM₁₀) in 2012.

36. Montenegro was in the process of establishing a real-time online reporting system on air quality data. A new automatic air quality monitoring calibration laboratory had been launched, and an allergenic pollen monitoring network had been extended to 12 stations. Ukraine had installed a new automated air quality monitoring system in the Dnepropetrovsk region and was in the process of developing automated systems for environmental monitoring of air quality in the Kharkiv, Odessa and Lugansk regions. Tajikistan had established environmental monitoring and analytical control centres and a modern mobile air quality monitoring laboratory.

37. The Russian Federation, under its federal target programme on the protection of Lake Baikal (2012–2020), was currently implementing measures to operationalize stationary automated air pollution control posts, to equip its monitoring network with mobile air pollution observation laboratories, to equip its data collection and processing

centres and to organize communication channels for information exchange between the different elements of the monitoring system. Under another regional target programme aimed at the development of the territorial system of environmental monitoring in the Chelyabinsk region, monitoring systems in 17 cities — including 30 stationary automated posts and three mobile automated air quality control laboratories — were being set up.

38. In the area of expanding monitoring of specific environmental media, good progress had been achieved in a number of countries. The Russian Federation had expanded its hydro-meteorological observation networks by installing 57 additional meteorological stations and 14 posts in 2011. Georgia had carried out works for the expansion of its automated hydrometeorological observation network by preparing positions for installation of three automated meteorological stations and seven hydrological posts for measuring water levels in rivers. The Georgian Government planned to purchase and install five automated meteorological stations, 20 meteorological and 10 hydrological posts.

39. In 2012, Azerbaijan had installed a new laboratory for hydrobiological monitoring of rivers and lakes. Since 2011, biomonitoring of surface waters has been carried out in Georgia. The Republic of Moldova was currently implementing a number of programmes aimed at improving surface water monitoring, which involved the installation of 11 monitoring posts on the Prut River, the acquisition of equipment for 8 automated posts on the Dniester River and the installation of a meteorological radio locator. Montenegro had acquired modern equipment for the continuous monitoring of noise levels in the environment and planned to establish an experimental station for biomonitoring of pollutant impact on mussels as bio-indicators of the quality of the coastal marine environment. Serbia was working on developing new methodology for biomonitoring.

40. Monitoring of biodiversity had advanced in Georgia, with the establishment of a national indicator-based biodiversity monitoring system based on 26 indicators. Currently, 10 indicators were being calculated and the results would be available by the end of 2012 on a dedicated website (<http://www.biomonitoring.moe.gov.ge>), as well as published in an annual biodiversity monitoring report. Kyrgyzstan had conducted forest inventories and had published the results in paper and electronic formats. Collection of data related to biodiversity had been organized for the first time in Montenegro.

41. Belarus had completed the construction of geodynamic network of local sites for observing the geomagnetic and gravitational fields. Serbia had extended its allergenic pollen monitoring network. Uzbekistan had started using new satellite automatic measuring instruments for monitoring geological hazards.

42. In the Russian Federation, a modern chemical-analytical centre had been established at the Specialized Centre for Hydrometeorology and Environmental Monitoring of the Black and Azov Seas.

43. Serbia had started to use special software (eDAMIS application) for the transmission of waste data to Eurostat and had established an information system on waste for facilities that were not covered by the national PRTR; more than 800 companies sent waste data to that information system.

44. Concerning data handling and data quality assurance, a certain improvement had been achieved in a number of countries since the previous year. Azerbaijan, Belarus, Georgia, the former Yugoslav Republic of Macedonia and Ukraine had developed or improved their online data collection systems, which were accessible to the general public on the Internet. Belarus and the former Yugoslav Republic of Macedonia had advanced in providing access to real-time data collection and information on air quality. The Russian Federation had established a real-time data collection and information processing centre at the Specialized Centre for Hydrometeorology and Environmental Monitoring of the Black and Azov Seas. Montenegro and Serbia had improved their data collection and reporting

systems by establishing a network of institutions with an integrated system of environmental data management.

45. Good progress had been made in a number of countries on the preparation of indicator-based environmental assessments. Some countries had advanced in using environmental indicators for preparing national state-of-the-environment (SoE) reports (e.g., Kyrgyzstan, the former Yugoslav Republic of Macedonia, Montenegro, Serbia and Uzbekistan). Armenia had developed a system of evaluation of sustainable development, based on indicators. The Government of the Russian Federation issued a decree on a new format of the national SoE report. The latter should use indicators from the ECE Guidelines for the Application of Environmental Indicators in Eastern Europe, the Caucasus and Central Asia.²

46. Efforts to improve the quality of reporting were made by Azerbaijan, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro and Serbia. Some countries had advanced in making available their SoE reports via the Internet (Belarus, Georgia, Republic of Moldova and Ukraine). Azerbaijan had commenced the preparation of its national SoE assessment report for a five-year period (2008–2012), whereas Ukraine was preparing its report for 2011 and Uzbekistan for a two-year period (2010–2011).

47. Serbia reported that it had started using the EE-AoA approach by revising its methodology of preparing inland waters surveys.

48. Several countries shared their experiences on the use of modern technologies for better dissemination of environmental information. Some countries, such as Armenia, Georgia, the Republic of Moldova, the Russian Federation, the former Yugoslav Republic of Macedonia and Uzbekistan, had progressed well in the development and introduction of new software for building national automated environmental information systems. Armenia had improved dissemination of environmental information through upgrading the web pages of corresponding environmental portals. Azerbaijan and Bosnia and Herzegovina were in the process of developing geographic information systems (GIS). Belarus reported on the finalization of the complex of measures aimed at providing efficient dissemination of environmental information.

49. The Republic of Moldova had improved access to information on air pollution by developing new diagrammatic maps, which were posted daily on the website of the Hydrometeorological Service, as well as improved the coding system of air pollution also posted on the website. A project on the development of the web portal on GIS-environment was currently being elaborated by the National Ecological Fund, aiming at collecting, storing, processing, modelling and analysing spatial environmental data. Montenegro was in the process of establishing a General Environmental Information System under its Environmental Protection Agency. Ukraine was working on the implementation of GIS technology using remote sensing data in environmental monitoring of nature reserve areas.

50. The Working Group took note of the information provided and decided to continue that type of reporting at its future sessions.

² United Nations publication, Sales No. E 07.II.E.9, Part One. Available from <http://www.unece.org/fileadmin/DAM/env/documents/2007/ece/ece.belgrade.conf.2007.inf.6.e.pdf>.

C. Progress in the activities of the Joint Task Force on Environmental Indicators

51. The Chair of the Joint Task Force on Environmental Indicators informed the Working Group about the outcomes of the Task Force's fifth and sixth meetings, held in Geneva from 4 to 6 July and from 30 October to 1 November 2012, respectively.

52. The fifth meeting had reviewed the indicators on emissions of pollutants into the atmospheric air, greenhouse gas emissions, household water use per capita, water losses, land uptake and fertilizer consumption. The Joint Task Force had recommended that its members use the available data or start collecting data for the regular development and publication of those indicators. Furthermore, the Task Force had reviewed selected indicators of inland water and seawater not covered by the Guidelines for the Application of Environmental Indicators, namely, indicators on total water use, public water supply, connection to public water supply, population connected to wastewater treatment, wastewater treatment facilities and concentrations of pollutants in coastal seawater and sediments (except nutrients). It had agreed on all of the six water-related indicators, with some amendments in the descriptions of the indicators. In addition, the Joint Task Force had reviewed the following selected indicators of biodiversity not covered by the Guidelines: biosphere reserves and wetlands of international importance; invasive alien species; and catches of fish and other aquatic animals and products. It had agreed on the first two indicators and had decided to review further the indicator of catches of fish and other aquatic animals and products.

53. The sixth meeting had reviewed the following six indicators from the Guidelines: air temperature; atmospheric precipitation; drinking water quality; final energy consumption; total energy consumption; and average age of the road motor vehicle fleet. The Joint Task Force had recommended that its members use the available data or start collecting data for the regular development and publication of the indicators. Furthermore, the Task Force had revisited the indicator on catches of fish and other aquatic animals and products, and had decided not to add that indicator to the Guidelines. In addition, it considered three additional agri-environment indicators, not covered by the Guidelines, namely: indicators on water-use intensity by agriculture; cropping and livestock patterns; and gross nitrogen balance. It had agreed on the indicator of water-use intensity by agriculture, under the title "Irrigation", and on the indicator of gross nitrogen balance. It had been agreed not to include the indicator on cropping and livestock patterns in the Guidelines.

54. Future work for the next two sessions in 2013 would include finalizing the review of indicators from the Guidelines (one indicator remained), reviewing six water-related indicators, two agri-environment indicators, two biodiversity indicators, the indicator on environmental protection and two environment-related energy indicators that had been approved by the Joint Task Force since its inception. The Joint Task Force would also consider the secretariat's proposals for additional transport indicators and for green economy indicators.

55. The Joint Task Force had agreed to start revising the text of the Guidelines, introducing the agreed amendments to the descriptions of individual indicators, adding tables on the calculation of indicators and relevant glossaries of terms and references, and introducing additional indicators, descriptions of which had been agreed by the Joint Task Force.

56. The Working Group welcomed the progress made by the Joint Task Force.

D. Preparation of Indicator-based Environment Assessment Reports

57. Members of the Working Group from Belarus and Bulgaria shared their experiences on progress made in their countries in implementing the Guidelines for the Preparation of Indicator-based Environment Assessment Reports in Eastern Europe, the Caucasus and Asia,³ which had been prepared by the Working Group on Environmental Monitoring and Assessment and endorsed by the Sixth “Environment for Europe” Ministerial Conference (Belgrade, 2007).

58. A representative of Belarus made a presentation on its national experience in the preparation of an indicator-based SoE report. The purpose of the report had been to assess the state of the environment and changes over a five-year period (2005–2009), as well as to identify causes and effects of current environmental conditions. The structure and content of the report had been entirely based on the recommendations set out in the Guidelines for the Preparation of Indicator-based Environment Assessment Reports. That had allowed comparison of national indicators with similar indicators of other European countries, developing priorities and objectives of environmental policy, and evaluating the effectiveness of protection measures.

59. A representative of Bulgaria shared that country’s experience in reorienting the national SoE report towards the use of environmental indicators. The latest 2010 SoE report had been the first entirely based on environmental indicators. The advantages of the report were that it clearly defined the linkages between social development and the state of the environment and nature resources; there had also been an improvement in the assessments identifying trends and threats, and in the comparability of information, which would make it possible to integrate the report into the European assessments. The methodology used to prepare the report had been based on the Driving Force, Pressure, State, Impact, Response (DPSIR) indicators’ scheme, as well as strategic papers and guidelines adopted at the EfE Ministerial Conferences in Kyiv (2003), Belgrade (2007) and Astana (2011) relating to environmental indicators and their implementation in national SoE reports. The report analysed and assessed each indicator and indicator trends, and provided linkages with other indicators, as well as linkages with environmental policies — legal and strategic documents at the national and European Union level, and measures to achieve strategic and operational goals.

60. The EEA representative shared the Agency’s experience with the production of its 2010 indicator-based report, which had been based on clear policy needs and demonstrated an explicit link between indicators, the data flows behind them and the state of the environment assessed. Development of the report had been made possible through the collaboration of the EEA network of national reference centres with country representatives dealing with reporting at the national level, working with each other and with the Agency. The report embraced national experiences and the European perspective, providing comparable information which could be easily aggregated at the European level. The Agency’s experts would be happy to share their experience on establishing the network mentioned with the Working Group.

61. During the discussion it was underlined that Georgia, Kazakhstan, Kyrgyzstan, Montenegro, Serbia and the former Yugoslav Republic of Macedonia had recently published their first indicator-based SoE reports. Armenia was finalizing a legal basis for indicator-based reporting and the Russian Federation had adopted a regulation on the publication of SoE reports based on the ECE and Organization for Economic Cooperation

³ United Nations publication, Sales No. E 07.II.E.9, Part Two.

and Development sets of environmental indicators. Uzbekistan was in the process of preparing its indicator-based SoE report for 2010–2011.

62. To help other countries to start publishing indicator-based SoE reports and to share national experiences on the matter, it was proposed to establish a network of national experts responsible for SoE reporting under the Working Group. The network would supplement a similar one operating under EEA. EEA and experts from its member countries would be invited to share their experiences with preparing indicator-based SoE reports.

63. The Working Group thanked the delegations that had made presentations and decided to establish a network of national focal points for preparing national SoE reports, taking into account, in particular, the experience gained in that respect within the EEA networks. A meeting of national focal points would be held in Geneva on 16 and 17 April 2013.

E. Practicalities of using the methodology of the Europe's Environment — An Assessment of Assessments report at the national level

64. The representatives of the Regional Environmental Centre for Central Asia and REC-Moldova presented proposals on undertaking pilot projects on AoA on environmental themes that had not been covered by the EE-AoA report, such as biodiversity, climate change, air pollution, soil and waste. Up to two countries would be covered by each project, subject to confirmation by interested countries and availability of donor funds. The projects would serve as a follow-up to the subregional AoA reports undertaken in 2010–2011 by the Centres and two other Regional Environmental Centres (for the Caucasus and the Russian Federation) under grant agreements with ECE and other donors as a part of the EE-AoA.

65. During the discussion members of the Working Group supported launching, at the individual country level, an AoA produced over the past five years on a wide variety of environmental themes using the EE-AoA methodology. Proposed pilot projects as well as possible similar projects for other subregions would assist countries in developing national AoAs. Delegations from Kazakhstan, Kyrgyzstan and the Republic of Moldova expressed their interest in participating in the proposed pilot projects.

66. The Working Group welcomed the proposals of the Regional Environmental Centre for Central Asia and REC-Moldova to undertake pilot projects on AoA with interested countries and invited ECE, EEA and donors to provide support for that purpose. It invited the two Regional Environmental Centres to report on the implementation of the projects at the next meeting of the Working Group.

F. Use of modern technologies for better dissemination of environmental information

67. Members of the Working Group exchanged experiences in their countries and organizations on the use of modern technologies, such as online GIS-based systems and software, for better dissemination of environmental data, indicators and assessments.

68. A representative of Bulgaria made a presentation on the latest developments in the national environmental information systems. In 2011, a new information system for air quality monitoring had become fully operational, and the system had been upgraded in 2012 to provide automatic generation of a daily bulletin on air quality and public information on the most recent exceedances of alarm thresholds for nitrogen dioxide, sulphur dioxide and ozone. Currently, a new module for automatic data dissemination to the

municipalities was under development. A new information system for the National Biodiversity Monitoring System had also been completed in 2012, consisting of a mobile GIS application, new regional databases and a national database, which provided online public access to the summarized and analysed information. The integrated information system for waste had been developed in 2011 based on the GIS model, and was currently being extended with new modules for data exchange on widespread waste. Currently, the Bulgarian Executive Environmental Agency was developing web tools for dissemination of environmental indicators.

69. A representative of Kazakhstan made a presentation on using modern technologies in developing State Cadastres of Natural Resources — using an automated computerized system that systematized, stored, processed and displayed data on the state of natural resources (fisheries, forests, wild animals, hunting areas and protected areas) as well as providing data interpretation and analysis for decision-making on the protection, restoration and preservation of natural resources. State Cadastres were built on modern computer technologies, programme-technical tools for organizing arrays of information, database management systems and GIS. Further development of the Cadastres would include their integration with cadastres for water, subsoil and land resources, as well as with the general environmental information system of the Ministry of Environmental Protection.

70. A representative of Ukraine presented that country's experience with data visualization of space environmental monitoring in online mode. The advantages of the application of Earth remote sensing and GIS technologies were demonstrated. An overview was given of the results of the space monitoring technology implementation within the territory of the natural reserve fund of Ukraine with the objective of detecting violations of environmental legislation and providing the public authorities with the data required for viable decision-making.

71. The Working Group took note of the information provided, thanked the speakers for their presentations and agreed to continue, at the next session, the exchange of experiences in the application of modern technologies for the better dissemination of environmental information.

V. Assessment and data-collection activities in other forums of relevance to the Working Group

72. A representative of WHO/ECEH made a presentation on the development of the European Environment and Health Information System. The system included country level indicators of exposure, health effects and policy actions. A set of new indicators had been defined for effective monitoring of progress towards goals set in the Parma Declaration, adopted at the Fifth Ministerial Conference on Environment and Health in 2010. While most of the proposed indicators were based on existing data on exposure or information on national policies in the area of environment and health, some of them would require new data collection in many member States. Those included indicators of exposure to selected indoor air pollutants, smoking and access to sanitation in schools. WHO had developed a standardized methodology for a new exposure assessment survey in schools and had pilot tested it in Albania and Croatia. Several more national pilot surveys in schools were in preparation or were ongoing. WHO had also coordinated the development of a new human biomonitoring survey to assess prenatal exposure to selected environmental chemicals, and had been collaborating with the United Nations Environment Programme to develop a joint project aimed at harmonizing monitoring of exposure to mercury on a global scale.

73. The Working Group took note of information provided and thanked WHO/ECEH for the presentation made.

VI. Other business

74. The Working Group noted that its next meeting was scheduled to be held in Geneva on 6 and 7 November 2013.

VII. Closure of the meeting

75. The Working Group thanked Norway and the Russian Federation for the financial support provided for the eligible members of the Working Group to participate in the session.
