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Synopsis



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The United Nations issued the first Environmental Performance Review of the former Yugoslav Republic of Macedonia (Environmental Performance Reviews Series No. 17) in 2002.

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Preface

The second Environmental Performance Review (EPR) of the former Yugoslav Republic of Macedonia began in May 2010 with a preparatory mission. During this mission, the final structure of the report was discussed and established. A review mission took place from 25 January to 3 February 2011. The team of international experts taking part included experts from Bulgaria, Germany, Portugal and the United States of America, as well as from the secretariats of the United Nations Environment Programme (UNEP), the World Health Organization (WHO) and the United Nations Economic Commission for Europe (UNECE).

The draft EPR report was submitted to the former Yugoslav Republic of Macedonia for comment and to the Expert Group on Environmental Performance for consideration in April 2011. During its meeting on 4 May 2011, the Expert Group discussed the report in detail with expert representatives of the Government of the former Yugoslav Republic of Macedonia, focusing in particular on the conclusions and recommendations made by the international experts.

The EPR recommendations, with suggested amendments from the Expert Group, were then submitted for peer review to the special session of the UNECE Committee on Environmental Policy on 26 May 2011. A high-level delegation from the former Yugoslav Republic of Macedonia participated in the peer review. The Committee adopted the recommendations as set out in this report.

The Committee on Environmental Policy and the UNECE review team would like to thank the Government of the former Yugoslav Republic of Macedonia and its experts who worked with the international experts and contributed their knowledge and assistance. UNECE wishes the Government of the former Yugoslav Republic of Macedonia further success in carrying out the tasks involved in meeting its environmental objectives, including the implementation of the recommendations in this second review.

UNECE would also like to express its appreciation to the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and to the German Federal Environment Agency for their support to the EPR Programme through the Advisory Assistance Programme for Environmental Protection in the Countries of Central and Eastern Europe, the Caucasus and Central Asia; to the Governments of Portugal and the United States of America for having delegated their experts for the review; to UNEP and WHO, and the United Nations Development Programme for their support of the EPR Programme and this review.

Executive summary

The first Environmental Performance Review (EPR) of the former Yugoslav Republic of Macedonia was carried out in 2002. This second review intends to measure the progress made by the country in managing its environment and in addressing upcoming environmental challenges since the first EPR.

To fight its difficult economic situation, after gaining its independence in 1991, the former Yugoslav Republic of Macedonia carried out regulatory and structural reforms in order to correct its macroeconomic instability and facilitate the transition to a market economy. The Government's stabilization programme, initiated at the end of 1994 with the assistance of financial institutions and international donors, succeeded in restoring economic stability. In the mid-1990s gross domestic product (GDP) growth began to pick up. GDP grew 15.4 per cent between 1996 and 2000, but this development was disrupted by the 2001 internal conflict.

The Government pursued a range of economic reforms which were aimed at stimulating economic growth and improving the living standards of the population through development of the private sector; improvement of the investment climate and greater job creation. GDP growth again turned positive in 2002, and a strong 4.5 per cent annual average growth continued until 2008. Sustained growth and economic stability with low inflation rates came to an end during the exceptional year 2008, with the international financial crisis. The country experienced sudden and steep recession in 2009, when GDP went from 5 per cent to 1 per cent growth, and ended the year with decreasing foreign direct investment (FDI), reduced credit, and a drop in exports.

POLICYMAKING FRAMEWORK FOR ENVIRONMENTAL PROTECTION AND SUSTAINABLE DEVELOPMENT

The country has made considerable progress in strengthening environmental legislation and policies since the first EPR. Due to the high priority placed on transposing EU legislation, the former Yugoslav Republic of Macedonia has put emphasis on the drafting and updating of its legislation and policies to meet EU requirements.

This progress, however, means that most of the already limited financial and human resources are mainly devoted to making rather than implementing policy. Indeed, the recent EU assessment as part of the integration process confirms that the country is moving in the right direction, but a lot still needs to be done to improve implementation and to meet EU environmental standards. For example, the National Strategy for Sustainable Development (NSSD) represents a valuable guiding document for the country, but has not yet been implemented.

A positive development is the ongoing decentralization process. This process, among other things, increases the responsibilities of municipalities in environmental management. One way to ensure the effectiveness of decision-making at the local level is through the adoption and updating of the necessary strategic and planning documents at the local level, especially Local Environmental Action Plans.

At the same time, increased responsibilities are often matched only by limited resources and capacity at the local level. This mismatch is unlikely to be bridged in the future, unless the Ministry of Environment and Physical Planning (MoEPP) is able to ensure qualitative supervision and assistance to municipalities during the decentralization process.

COMPLIANCE AND ENFORCEMENT MECHANISMS

Since the first EPR, the Government has focused on improving compliance by, among other things, strengthening enforcement. To this end, the Environmental Inspectorate and other enforcement bodies have been strengthened, a credible enforcement record is being created and efforts are made to ensure that fines and other sanctions are effectively applied.

In accordance with the Law on Environment, various instruments for environmental management have been introduced since the first EPR. These include environmental impact assessment (EIA), strategic environmental assessment (SEA), integrated pollution prevention and control (IPPC), prevention and control of major accidents involving hazardous substances and environmental monitoring systems.

Further work is needed in order to apply effectively these instruments. To improve the quality of SEA and EIA documentation, professional services preparing such documentation need further specialized training courses and practical exercises. Environmental concerns are still not covered in the phase of identification of the interaction between project activities and impacts on human, economic and social life.

EIA follow-up activities need to be strengthened in order to better monitor and evaluate the impacts of a project or plan. The list of control actions could include site visits to verify documents and assess whether measures taken are effectively preventing, reducing or eliminating adverse environmental impacts.

The current trend of accelerating the decentralization process puts additional stress on local government. Therefore, in order to strengthen the national environmental management system, it is important not only to reinforce the central administration but also to increase the implementation capacity of local authorities and to develop solid links between the two.

MONITORING, INFORMATION, PUBLIC PARTICIPATION AND EDUCATION

Since the first EPR the country has made progress in developing a centralized, strategic monitoring programme; in further developing a national environmental information system; and in improving collection of data on discharges of pollutants. Specifically, the former Yugoslav Republic of Macedonia strengthened the legal and regulatory basis for environmental monitoring, especially on air pollution, with the adoption of the Law on Environment and laws and by-laws on specific environmental media. At the same time, it increased the number of stations under the State Automatic Monitoring System for Air Quality from 4 to 15. These stations measure key air pollution parameters, including ground-level ozone, fine particles (PM_{2.5}), coarse particles (PM₁₀), ozone (O₃) and heavy metals. A total of 18 hydrological stations that monitor nearly all surface water going to neighbouring countries were upgraded and automated.

However, more still needs to be done by the Government as a whole and by individual public authorities to make environmental monitoring an effective information and policy tool. For example, the number of air quality stations in the country is insufficient, further modernization of water monitoring stations is necessary and a lake monitoring programme is yet to be adopted. There is a general lack of data on urban wastewater quality and on the quantity and quality of industrial wastewater. Observation and examination of groundwater is also not performed systematically.

Furthermore, coordination and cooperation between institutions managing environmental data in the country remains unsatisfactory. Many institutions manage a large amount of small, unconnected and unsynchronized databases. No harmonized criteria and standards for the design of environmental information systems and reliability of data management methods have been established. There is no real-time access to data via the Internet.

At the same time, despite the requirements of the Law on Environment and obligations under the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (Aarhus Convention), the country has not published a national state-of-the-environment (SoE) report since 2000. Although, pursuant to the same law, the publication of regional SoE reports remains optional, no such reports appear to have been published or planned so far. MoEPP is currently revising a Rulebook on the Content of the State of Environment Report that was adopted in 2006 but has never been applied.

The country has also made some progress in the area of environmental education and training. For example, the Law on Environment has provisions to ensure that every curriculum for primary or secondary schools contains teaching methods and issues in the field of environment. In practice, however, mandatory and optional training in environmental issues in schools are insufficiently linked and coordinated, precluding the interdisciplinary approach necessary for understanding environmental issues. There is no training in the State universities of specialists in environmental areas, such as environmental monitoring, management and law. Moreover, the country does not yet have an institutional platform where the Ministry of Education and Science and MoEPP could discuss environmental education issues.

IMPLEMENTATION OF INTERNATIONAL AGREEMENTS AND COMMITMENTS

Since the first EPR the former Yugoslav Republic of Macedonia has taken major steps to strengthen its participation in international environmental cooperation. It has acceded to nearly all important global and regional environmental agreements. Despite the progress achieved, the country has not yet ratified the Convention on the Protection and Use of Transboundary Watercourses and International Lakes. Ratification of the Convention is important for the protection of the country's transboundary waters, especially as regards the cross-border aspects of water management in the river basin of the Vardar River and Lake Dojran.

However, some challenges remain to effectively implement and comply with the obligations of some multilateral environmental agreements (MEAs), especially those that were recently ratified. MoEPP has been designated as the national focal point and competent authority for most of the ratified regional and global environmental conventions. However, some of the departments and units responsible for specific environmental conventions do not always have sufficient capacity to ensure compliance with the conventions' obligations.

In order to accelerate the progress of the accession process, the Government recognizes the importance of maximizing the impact of available external assistance, increasing its effectiveness and ensuring greater ownership by further strengthening the national coordination mechanism. EU assistance through the Instrument for Pre-Accession Assistance (IPA) has become a predominant source of development assistance in recent years. The environment is a priority area in IPA planning. In 2008 and 2009, donor meetings were held and it was proposed to introduce a programme-based approach (PBA) in five selected sectors, including agriculture and environment, in order to further strengthen and improve coordination mechanisms aimed at increasing the effectiveness of external assistance.

Yet challenges still remain in the coordination and streamlining of investment activities in the environment sector. Coordination between ministries and stakeholders regarding planning and selection of environmental projects in line with national priorities is rather poor. Within MoEPP, internal coordination among the departments is often weak when it comes to the development of project proposals. Units within MoEPP which are responsible for planning, implementation, monitoring and evaluating projects do not have sufficient capacity to deal with the growing number of projects.

ECONOMIC INSTRUMENTS AND EXPENDITURE FOR ENVIRONMENTAL PROTECTION

Since the first EPR, the country has made some progress by introducing a large number of economic instruments in its primary and secondary legislation. There is a need, however, to improve the way these instruments are used. Some of the environmental economic instruments do not provide an incentive for environmental behaviour change. Many instruments are not effective either because the charge base is not correct — the charge level is either too low or non-existent — or the charge is not collected at all.

Often, payments are merely used as revenue collection instruments, even when there might be a possibility to change consumption patterns at the same time. The excise tax based on the value of the car is not an environmental tax, although it could become one if the tax were based on engine emissions. Similar problems hinder the environment-related pricing processes for water provision and wastewater.

An important issue is to make the provisions on economic instruments of existing laws operational. The Ambient Air Law has provisions for air emission charges, but the air emissions charge rulebook, where charges are defined, is missing and as a result the otherwise well-defined environmental law cannot be used.

Municipalities have to make important and complicated decisions when deciding on the water and waste charge tariff levels. They also have to deal with social and equality concerns while taking into consideration the local political situation when issuing tariffs. Municipalities do not necessarily have sufficient expertise to solve issues like this on their own.

PREVENTION AND CONTROL OF ENVIRONMENTAL POLLUTION

The 2005 Law on Environment, with its provisions on integrated pollution prevention and control, has contributed to a considerable improvement in environment management. Before the introduction of the Law, there were no permits for air emissions or for solid waste production. Companies dealing with chemicals had permits for import and use, but not for disposal of products. Following the adoption of the law, companies need to have an integrated environmental permit (IEP) describing obligations, such as limit values of emissions into the air or water, as well as solid waste management procedures, a deadline for adjustments to operational plans to comply with legislation, and reporting obligations.

Despite this positive step, the capacity at the central and local level to process applications and monitor their implementation is still limited, and as a result the applications of some larger emitters (energy production and metal industry) are not yet processed. Some MoEPP units have no staff to meet their obligations, while others have very limited staff. Municipalities have extended responsibilities on environmental management, but are even more understaffed. A great deal of effort is needed to strengthen central, regional and municipal administrative structures.

Furthermore, major remaining legal gaps to implement IPPC are the development of regulations on water and the updating of Maximum Allowable Concentrations (MACs) for emissions into air and water from point sources. There are also some major strategies and action plans to be developed, namely those established in the Laws on Ambient Air and on Water and Soil. Sectoral legislation needs to be updated to support the required adjustments to the operational plan. A good example to follow is the legislation on waste, which has been improved in the last couple of years and is quite developed.

SUSTAINABLE MANAGEMENT OF WATER RESOURCES

The country has developed an appropriate framework for sustainable water management, through the reorganization of MoEPP and the adoption of the 2008 Law on Water and of the second National Environmental Action Plan (NEAP), accompanied by strategy papers, recommendations and support reports from international institutions. Thus, environmental concerns have been embedded in legislation for the most part. Implementation is the next step that is required to achieve integrated water resources management based on the principles of sustainable development for river basins and transboundary international cooperation.

Effective water governance requires adequate implementation and enforcement capacity at the national and local levels. Efforts to reach this objective are undermined by capacity deficiencies in key institutions and the fragmented management of water between sectors and institutions. Although the water management sector of MoEPP has been strengthened, there are still overlapping responsibilities and competencies between different ministries and a lack of institutional coordination.

Wastewater treatment from point sources (municipalities and industry) remains a big challenge because only 10 per cent of existing settlements have access to mechanical and biological treatment of wastewater. Bigger cities have no sewage treatment plants. The average rate of wastewater collection in sewerage collection systems is around 60 per cent for households.

In response to climate variability and climate change, water uses, especially those for agriculture, may increase, while total national water availability (especially in the Vardar River as the main catchment area in the country) is expected to decrease.

WASTE MANAGEMENT

Significant progress in waste management has been achieved since the first EPR, particularly in the development of the policymaking and legal framework, with the adoption of the 2004 Law on Waste Management, the National Waste Management Strategy for the period 2008–2020 and the National Waste Management Plan for the period 2009–2015. Additionally, a considerable amount of secondary legislation has been adopted. Waste management is viewed both by the Government and MoEPP as one of the two top environmental priorities of the country, alongside water management. Significant institutional progress has been achieved with the establishment of the Department of Waste Management under MoEPP, although it remains understaffed.

Despite the progress achieved, there are still major challenges affecting waste management. Unregulated/unlicensed municipal disposal sites, illegal dumpsites and industrially contaminated hot spots pose major threats to public health and the environment. Also high on the priority list remain organizational and staffing issues, cost recovery and financing of services and investments, and most phases of technical management from collection to final disposal of hazardous and non-hazardous waste. Shortcomings in the generation and sharing of reliable data on all aspects of waste management undermine efforts for the formulation and implementation of an effective evidence-based waste management policy.

At the time of the second EPR review all but one of the country's municipal disposal sites operated without licences or any sort of supervision or monitoring. Extensive parts of the country's rural areas and villages are not covered by any waste collections services or, if they are, coverage is not frequent. The majority of medical waste, even if separated at source, is disposed at municipal disposal sites, with Drisla landfill being the only exception. At the same time, such disposal sites are also grounds for economic activity by the informal sector and, often, human communities are developed in the vicinity of these dumpsites.

Furthermore, some municipal landfills are inappropriately situated, for example on riverbanks and transboundary waters, thus causing adverse impacts, including transboundary pollution.

One possible long-term solution for this problem is to move from municipal-level to regional-level landfills. This is an approach currently followed by the Government: two concession-based and two public regional landfills were in advanced negotiations at the time of the second EPR. Waste collection, transportation services and landfill operation are expected to be run by the private sector. The successful establishment and operation of the first regional landfills are particularly important as they may set an example for the remaining municipalities in the country.

FORESTRY, BIODIVERSITY AND PROTECTED AREAS

Since the first EPR, the former Yugoslav Republic of Macedonia has made much progress in establishing a comprehensive legal framework and strategies for sustainably managing its forests, conserving biodiversity and protecting its natural heritage. New laws and rulebooks are filling major legal, regulatory and policy gaps, e.g., the Law on Nature Protection, the Law on Forests and the Law on Hunting.

The national goals to sustainably manage State-owned forests and to certify national high forests will not be realized until the necessary land and resource information systems are established and functioning. These include a real estate cadastre of State-owned lands and a comprehensive forest inventory. To remain up to date, this inventory should be accompanied by the introduction of an ongoing integrated monitoring programme to track conditions of forest resources, including forest health, timber volume, wildlife habitat, non-wood forest products, and other key resources.

The only current environmental or sustainable development indicator pertaining directly to forest conditions is "Forest Fires". A broader suite of indicators is needed that monitor trends of stressors (including impacts of climate change); the condition, health, and productivity of forests; non-wood forest products; and social and economic conditions related to forest management, including forestry sector jobs. These would establish the baseline data for practising adaptive management, which is the primary mechanism for achieving sustainable forest management.

The country has not yet prepared its National Red List of Threatened Species and Red Books, even though these are identified as top priorities in the Biodiversity Strategy and Action Plan. The scientific community does not appear to agree on the status of these species. This may be due to a lack of sufficient data for each of the many endemic and threatened species. Temporary protection measures may not be affording adequate protection of the invaluable biodiversity the country currently supports.

The funding of Protected Areas is inadequate and unstable. The Law on Nature Protection established a set of potential funding sources; however, these are very limited. Furthermore, the system of Protected Areas is not yet fully compliant with the Law on Nature Protection. Areas for improvement include re-evaluation of existing Protected Areas to conform with International Union for Conservation of Nature (IUCN) categories, the development of management plans for all Protected Areas within two years of proclamation and the establishment of a system of Protected Areas to ensure the representativeness of the country's diverse habitat types and ecosystems.

HUMAN HEALTH AND THE ENVIRONMENT

Improvements in key health indicators have been reported in the country since the first EPR. Yet, the national evidence base that links health and environmental risks is too weak to be useful for policymakers to set priorities. Public funding for research in environmental health is limited, and data on exposure is seldom linked to data on health outcomes, resulting in very limited risk assessment activities. The country reports on only 11 of the 29 indicators in the WHO Environment and Health Information System database.

At the same time, the burden of disease from environmental health risks is estimated to have been as high as 15 per cent of the total burden of disease in the country in 2004. Particular attention is needed in response to environmental hot spots, waste management (including medical waste), health service hygiene and maintenance, air pollution, water and wastewater, as well as systematic information elaboration and sharing on environmental exposures and health effects.

In the national health institutes, activities are not yet based on longer-term sustainable programmes. Through EU financing mechanisms, the opportunity to raise awareness of the importance of environmental health in projects and initiatives exists. However, funding opportunities from other sectors on issues that are relevant to environmental health are rarely explored. For example, health services adjustments, renovations of infrastructure and new constructions could benefit from clean development schemes and higher energy efficiency.

Conclusions and recommendations

Chapter 1. Policymaking framework for environmental protection and sustainable development

Overall, the country has made valuable progress in preparing environmental legislation and policies since EPR1. Nevertheless, much remains to be done, especially with regard to implementation, for the country to meet EU environmental standards. The recent EU assessment as part of the integration process confirms that the country is in the right direction for complying with EU standard legislation on environment, but a lot still needs to be done with regard to institutional and legislative development.

The National Strategy for Sustainable Development (NSSD) potentially represents a very valuable guiding document for the country, but it yet to be implemented. Moreover, it is to be valid until 2030, which on the one hand is a fair period of time for achieving all the envisaged activities, but on the other hand should not be seen as something binding national planning for such a long period of time, especially considering how fast things are developing in this part of Europe.

Recommendation 1.1

The Government should:

- (a) Place high priority in implementing the National Strategy for Sustainable Development and develop a related action plan*
- (b) Establish the Secretariat of the National Council for Sustainable Development.*
- (c) Periodically review the validity of the strategy and if necessary amend the document should circumstances or priorities change in the coming years.*

The country's priority on EU integration and accession puts pressure on the drafting and updating of the legislation and policies to meet EU standards. This means that most of the already limited financial and human resources are mainly devoted to making rather than implementing policy. Moreover, to facilitate relationships and cooperation with other EU countries and institutions, a similar institutional approach to other States should be put in place.

Recommendation 1.2

The Government should consider merging the Administration for Environment, State Inspectorate and Office of Spatial Information system in an Environmental Protection Agency, which roles should focus on monitoring state of environment in the country, ensuring implementation of the legislation, providing expert support to the Government and liaising with the European Environment Agency in preparing State of the Environment reports or other environmental assessments.

Considering the decentralization process which is ongoing in the country and the growing responsibility municipalities will be assuming in environmental management, decision-making at the local level must be coherent and conscious. This can only be achieved if the necessary strategic and planning documents at the local level, especially LEAPs, are adopted and updated.

Recommendation 1.3

Municipalities, which have not yet developed a local environmental action plan should do so as soon as possible taking into account the National Strategies and any other relevant document.

Municipalities, which already have a local environmental action plan should consider updating it in order to make it more in line with the current priorities of the country.

The ongoing decentralization process requires great efforts by the country: in particular, environmental management must take place at the municipal level in a consistent and harmonized way. Given the overall responsibilities of MoEPP in this respect, there is a need to ensure qualitative supervision and assistance to municipalities in the decentralization process.

Recommendation 1.4

The Ministry of Environment and Physical Planning, should consider strengthening the Sector for Communication with Local Self government both in terms of number and knowledge of human capacities to be assigned.

Recommendation 1.5

The Government through the Ministry of Environment and Physical Planning and other responsible institutions should place high priority on Chapter 27 – Environment by:

(a) Strengthening capacity, with an emphasis on providing sufficient financial resources for realization on the National Plan on Adoption of the Acquis Communautaire and the National Environmental Investment Strategy.

(b) Establishing a coordination body chaired by the Minister for Environment and Physical Planning for the environmental issues, that will be responsible for coordination of the EU integration, implementation on the National Plan on Adoption of the Acquis Communautaire, and cooperation with international donors towards the preparation for accession negotiation process.

Recommendation 1.6

The Ministry for Environment and Physical Planning should strengthen the Sector for European Union (EU) and other sectors responsible for specific areas within the Ministry in the process of approximation of EU acquis and fulfilling the obligation, which derives from EU Acquis.

Chapter 2. Compliance and enforcement mechanisms

Despite progress made since the first EPR, further work is needed in order to apply in practice the provisions of the legislation elaborated. SEA and EIA documentation, such as reports, studies and elaborates, are frequently of poor quality. Environmental concerns are not covered in the phase of identification of the interaction between project activities and impacts on human, economic and social life. Special training courses and practical exercises are needed to optimize use of different tools and techniques for environmental appraisal of the project by practitioners.

Recommendation 2.1

The Ministry of Environment and Physical Planning and other relevant environmental authorities should:

(a) Implement the proper steps of the strategic environmental assessment and environmental impact assessment procedures and contribute to better quality of the strategic environmental assessment and environmental impact assessment documentation

(b) Validate different software models to estimate emissions, waste generation and other impacts based on proposed technological processes.

(c) Strengthen the capacity at the local level with regard to the environmental impact assessment procedure

Special attention should be paid to the introduction of EIA follow-up activities (monitoring and evaluation of the impacts of a project or plan through the environmental performance of the project or plan). The control might also include verification of documents and site visits for checking the results of the implementation of measures for prevention, reduction or elimination of significant adverse environmental impacts and for assessing their effectiveness. This would make it possible to retrace consistency between the planned activities, working project preparation, real construction works and operation of the facilities.

Recommendation 2.2

The Ministry of Environment and Physical Planning should elaborate a mechanism and create a system for consecutive control of implementation of and compliance with the conditions, recommendations and mea-

tures set in the final documents under procedures of strategic environmental assessment and environmental impact assessment.

It is of crucial importance that MoEPP and SEI work together in order to enable the performance of inspection tasks falling under the competence of the local self-government in cooperation with MoEPP. The full equipment of the Inspectorate with technical means, protection equipment and vehicles is of great importance.

Recommendation 2.3

The Ministry of Environment and Physical Planning should elaborate and propose to the Government for approval to:

(a) Increase the human and financial capacity of the State Environmental Inspectorate

(b) Develop a network on information exchange and coordination between environmental inspectors of central and local level.

Recommendations from the first EPR of the former Yugoslav Republic of Macedonia that are still valid and have to be implemented

One of the priorities in the area of environment is the necessity to strengthen the national environmental management system and reinforce the central administration. Considering that the bulk of legislation concerns compliance with the EU Acquis, certain efforts are crucial for ensuring its practical implementation, as well as ensuring the necessary capacity and institutional structure for the process of identification, adoption and implementation of the strategic plans and programmes. Simultaneously, the decentralization process entails identification of priorities and measures aiming at facilitating the process of transfer of competencies from central to local level, thereby increasing the implementation capacity of local self-government, as well as developing solid links between central government and local self-government.

Recommendation 2.2 from the 1st EPR:

The MoEPP should give the highest priority to strengthening its implementation bodies - the Environment Office and the State Environment Inspectorate:

(a) The Administration for Environment should be reorganized into an Executive Environmental Agency for the implementation and enforcement of environmental legislation and fully oriented to the requirements of environmental management. In this regard, the Agency should, as a minimum, consist of an environmental monitoring centre (providing monitoring of all environmental media), an SEA, EIA and permit issuing division (dealing with single permits: water, waste, chemicals, as well as with integrated permits).

(b) The State Environment Inspectorate should be strengthened at local levels with small units of two or three specialists and appropriate equipment. Coordination among the different inspectorates, especially where they share responsibilities in environmental protection, should be streamlined through a better exchange of information and joint site visits or inspections.

Chapter 3. Monitoring, information, public participation and education

With the adoption of the Law on Environment and laws and by-laws on specific environmental media, the country made significant progress in strengthening the legal and regulatory basis for environmental monitoring, especially on air pollution. It increased the number of stations under the State Automatic Monitoring System for Air Quality from 4 to 15. Key air pollution parameters are measured including ground-level ozone, small particles PM10, O3 and heavy metals. A total of 18 hydrological stations that monitor nearly all amount of surface water going to neighbouring countries were upgraded and automated. A monitoring (routine data collection) system on various waste streams has been established.

At the same time, the density of air quality stations in the country is insufficient. Further modernization of water monitoring stations is necessary. No progress has been made with the adoption of a lake monitoring programme, as proposed by relevant monitoring institutions in 2005. There is a general lack of data on urban wastewater quality and the quantity and quality of industry wastewater. Observation and examination of groundwater are not performed systematically. There is no continuous nationwide measurement and assessment of the state, quality and changes in the soil. The country does not yet have a national forest inventory. Furthermore, monitoring of natural heritage and biodiversity in the country has not yet been established.

The Ministry of Environment and Physical Planning (MoEPP), the institutions of the Ministry of Health, the Ministry of Agriculture, Forestry and Water Economy and its Hydro-meteorological Administration, the State Statistical Office and other organizations and institutions in the country are dealing with monitoring and data collection on environment. To better coordinate these activities, the Government adopted a National Environmental Monitoring Strategy in 2006. To implement it, MoEPP set up a working group composed of representatives of relevant institutions. This working group reviewed the existing monitoring stations and parameters with a view to integrating these stations into a single State network. MoEPP prepared a draft decree to this end, which is under consultation with relevant monitoring institutions in the country.

Recommendation 3.1

The Ministry of Environment and Physical Planning should speed up the process of inter-ministerial consultations on the draft decree to establish a national environmental monitoring programme and to submit to the Government for approval. The programme should identify the responsible institutions, regulatory and technical requirements, budgets and performance indicators, to establish reliable and sustainable monitoring systems for all media.

The Law on Environment obliges the Government to establish an environmental information system on the state of the environment. To implement this requirement, the Government approved in 2005 a Strategy for Environmental Data Management in the country. MoEPP has made some efforts to implement this Strategy: all environmental data and information obtained by various monitoring networks and self-monitoring originating from different institutions, entities and bodies are henceforth submitted to MoEPP; and databases on air quality and emissions, greenhouse gas emissions, wastewater polluters and solid waste have been established.

Nevertheless, coordination and cooperation between relevant institutions managing environmental data in the country remains unsatisfactory. Many institutions manage a large amount of small, mutually unconnected and unsynchronized databases, inadequate for meeting wider needs and requests. No harmonized criteria and standards for the design of environmental information systems and reliability of data management methods have been established. There is no agreed format for the submission of environmental data to MoEPP from data collectors. All MoEPP databases are in fact “locked in”, not-interconnected databases. There is no real-time access to data via Internet.

Recommendation 3.2

The Ministry of Environment and Physical Planning should continue, in cooperation with other relevant public authorities and other stakeholders, work towards the establishment of an environmental information system that should provide relevant comprehensive, accurate and publicly accessible information on the state of the environment. Future steps should include:

- *Establishment of environmental data and metadata standard;*
- *Establishment of standards to regulate methodologies and procedures in the creation, access, protection and uniformity of environmental information in the related institutions and the country as a whole;*

- *Preparation of appropriate secondary legislation on different environmental areas related to the data acquisition and sharing between the Ministry of Environment and Physical Planning and other stakeholders;*
- *Further development of the web interface that will allow data access via internet in real time that includes import of spatial data that enables geographical information system integration;*
- *Development of web applicative solutions that will integrate the central database with digital vector geographical information system data;*
- *Further development of the National Environmental Database under the Ministry of Environment and Physical Planning, with appropriate application modules, that will enable automated and standardized data gathering and automated data validation according to the Law on Environment.*

Since 2002, MoEPP has been preparing annual reports on the basis of processed data on several environmental media. Since 2008, a national set of environmental indicators has been published every second year. Since 2007, the State Statistical Office (SSO), jointly with MoEPP, has been producing every second year a publication on Environmental Statistics. In 2010, SSO published a statistical compendium Sustainable Development, 2010 as a first attempt in the country to promote the sustainable development concept from a statistical point of view.

At the same time, despite the requirements by the Law on Environment and obligations under the Aarhus Convention, the country has not published a national state-of-the-environment (SoE) report since 2000. Although, pursuant to the same law, the publication of regional SoE reports remains optional, no such reports appear to have been published or planned so far. MoEPP is currently revising a Rulebook on the Content of the State of Environment Report that was adopted in 2006 but has never been used.

Recommendation 3.3

The Ministry of Environment and Physical Planning should

- (a) *Complete the Rulebook on the Content of the State of Environment Report, supplementing it, in particular, by recommendations from the Guidelines for the Preparation of Indicator-based Environmental Assessment Reports endorsed by the Belgrade Ministerial Conference "Environment for Europe"*
- (b) *Proceed with the preparation of the national environmental assessment report. Furthermore, the MoEPP should start providing methodological guidance and training to municipalities and the City of Skopje to help them publishing local environmental assessment reports.*

The Law on Environment establishes the responsibility of the Ministry of Education and Science to ensure that every curriculum for primary or secondary schools contains teaching methods and issues in the field of environment. At the same time, neither the laws on primary and higher education of 2008 nor amendments to these laws and a series of rulebooks on education adopted thereafter contain any references to environmental education. As a result, both mandatory and optional training in environmental issues in schools are insufficiently linked and coordinated, precluding the interdisciplinary approach necessary for understanding environmental issues. There is no training in the State universities of specialists in such important environmental areas as environmental monitoring, management and law. The situation with regard to the training of civil servants in environmental subjects in the country is unsatisfactory.

No institutional platform is in existence in the country for the discussion of environmental education issues between the Ministry of Education and Science and MoEPP. The country has not adopted a national strategy on education for sustainable development (ESD), as recommended by the UNECE Strategy on ESD. Moreover, no interagency commission or expert group involving all stakeholders has been established at the national level to develop such a national strategy.

Recommendation 3.4

The Ministry of Education and Science, in cooperation with the Ministry of Environment and Physical Planning, media representatives, other relevant public authorities, and stakeholders, should coordinate the development of a national strategy for education for sustainable development.

Chapter 4. Implementation of international agreements and commitments

Since the first EPR in 2002, the former Yugoslav Republic of Macedonia has taken major steps to strengthen its participation in international environmental cooperation. Its status of an EU candidate country has largely contributed to its progress in terms of implementation of international agreements and commitments. It has acceded to nearly all important global and regional environmental agreements, and major legislative development and considerable implementation progress have been achieved.

Challenges still remain in the coordination and streamlining of investment activities in the environment sector. Coordination between ministries and stakeholders regarding planning and selection of environmental projects in line with national priorities is rather poor. Within MoEPP, internal coordination among the departments is often weak when it comes to the development of project proposals. Units within MoEPP which are responsible for planning, implementation, monitoring and evaluating projects do not have sufficient capacity to deal with the growing number of projects.

Recommendation 4.1:

(a) The Government should establish an inter-ministerial task force to strengthen coordination and to streamline investment activities in the environment sector;

(b) The Ministry of Environment and Physical Planning should strengthen:

- *Its internal coordination mechanism for the preparation and selection of project proposals and strengthen its capacities in the responsible departments for monitoring and evaluation of the planned projects and investments.*

- *Its capacity in regard to forthcoming EU negotiations, especially in line sectors responsible for preparation of implementation plans for investment heavy directives.*

Technical and financial assistance to the environmental sector has been provided by many bilateral and multilateral donors. As the EU accession process gains momentum and regional stability has increased, the aid structure has undergone substantial changes: some donors are reducing their activities or changing the area of focus, while EU assistance through IPA has become a predominant source of development assistance over the next coming years. As a response to the changing structure of donor assistance and the need for increasing aid effectiveness, strengthening national ownership and leadership in the process of programming and coordinating development assistance, a process was initiated in 2008 to introduce the Programme-Based Approach (PBA). "Environment" has been selected as one of the five PBA priority areas, and PBA implementation Plans are under preparation. Within the environmental sector, there remain challenges to fully implement/operationalize the PBA concept, specifically to draw on international assistance in the most efficient way and to ensure consistency and synergy among projects being developed.

The recommendation is important and a crucial step in building the national development assistance system in right direction. The Government responded positively to the donor proposal and as a result a PBA as a mechanism for aid coordination was introduced. The adoption and process is well underway, and a follow-up Action Plan for 2010 has been proposed for adoption. A task-oriented institutional infrastructure has been put in place, and the Government is regularly informed by SEA.

Recommendation 4.2:

In line with the introduction of the programme-based approach concept for donor coordination and the principles of the Paris Declaration on Aid Effectiveness, the Ministry of Environment and Physical Planning should establish an up-to-date system for implementation, monitoring and evaluation of environment related projects supported by foreign assistance.

Despite the major progress achieved by the country in ratifying or acceding to global and regional multilateral environmental agreements, the Convention on the Protection and Use of Transboundary Watercourses

and International Lakes has still not been ratified. Ratification of the Convention is important for the protection of the country's transboundary waters, especially as regards the cross-border aspects of water management in the river basin of the Vardar River and Lake Dojran, which require cooperation between the former Yugoslav Republic of Macedonia and Greece.

Recommendation 4.3

The Government should proceed with preparatory work to assess the possibility and feasibility of accession to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes and its Protocol on Water and Health;

In view of the obligations that the country has undertaken by means of ratification of a large number of conventions, there is a need for a sufficient level of human and financial resources to provide for a sustained implementation and fulfillment of the obligations of the Conventions. MoEPP has been designated as the national focal point and competent authority for most of the ratified regional and global environmental conventions. Within some of the Departments and units responsible for the specific environmental conventions, there is not always sufficient capacity to comply with the Conventions' obligations, especially with regard to recently ratified Conventions.

Recommendation 4.4

The Ministry of Environment and Physical Planning should:

- (a) Strengthen its internal capacity, elaborate action plans or strategies to implement the multilateral environmental agreements and continue to attract international assistance for this purpose in order to ensure the proper implementation of the multilateral environmental agreements which have been recently ratified – i.e. Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, Protocols to Convention on Long-range Transboundary Air Pollution;
- (b) Comply with the reporting obligations under those agreements to which the country is already a Party, specifically the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.

In January 2010, the Government adopted the National Strategy for Sustainable Development, which offers a vision and policy for sustainable development for the period until 2030. Based on this Strategy, the Government established the National Council for Sustainable Development. However, this Council has never met yet. The next phase is the implementation of the Strategy. At the same time, the country has not submitted national reports on sustainable development to CSD cycles 16/17 and 18/19.

Recommendation 4.5

The Government should:

- (a) *Comply with its reporting obligations and commitments under the United Nations Commission on Sustainable Development;*
- (b) *Establish the Office for Sustainable Development and provide adequate resources for its activities to support the implementation of the Sustainable Development Strategy;*
Until the establishment of the Office for Sustainable Development, the Ministry of Environment and Physical Planning should ensure that the National Council on Sustainable Development meets at regular intervals and establishes a work plan.

Chapter 5. Economic instruments and expenditure for environmental protection

Since the last EPR 2002, the former Yugoslavia Republic of Macedonia has created a set of environmental laws and rulebooks. Indeed, the country has a surprisingly large number of economic instruments, but there is a need to address the way these instruments are used.

Some of the environmental economic instruments do not provide an incentive for environmental behaviour change. Many instruments are not effective because the charge base is not correct; the charge level is either too low or non-existent; or the charge is not collected at all. One example of the first is the municipal waste charges billed according to the dwelling m²; the second would be low water charges; the third would be non-existent waste water charges in some municipalities; and the last would be the low collection rate for existing charges.

Nor is the connection with the intended outcome, existing tax, fee, or charge levels and policies always clear. Often, these payments are merely used as revenue collection instruments even when there might be a possibility to change consumption patterns at the same time. The excise tax based on the value of the car is not an environmental tax although it could be - if the tax were based on engine emissions. Similar problems hinder the environment-related pricing processes for water provision and waste water. The public water companies cannot charge full cost recovery prices because of the social issues involved, or do not charge for waste water effluents if there is no treatment plant, even when this revenue could be directed towards the construction of a waste water treatment plant.

Recommendation 5.1

The Ministry of Environment and Physical Planning, in cooperation with other ministries, should, when further developing the current system, clarify the objectives and goals of environmental policies and use economic instruments to attain these goals by

- a) Defining the pollution, emissions or natural use taxes, fees and charges in such a way that they provide an incentive for the polluters and resource users to change their behaviour.*
- b) Full cost recovery is applied wherever possible taking into account the needs of deprived groups of society*

An important issue is to make the existing laws operational. The Ambient Air Law has provisions for air emission charges, but the rulebook defining charge levels is not available. In this case, a well-defined environmental law cannot be used because the air emissions charge rulebook, where charges are defined, is missing. The situation is similar with water emission charges, where at the moment the Vodovods cannot be charged for discharges because the rulebook regulating the charges is not ready.

Recommendation 5.2

The Ministry of Environment and Physical Planning should render the existing laws operational by finalizing the missing rulebooks on air and water emission

There are inconsistencies in the utilization and development of the economic instruments. At the moment, similar environmental issues are not tackled with the same tools. For example, there is a well-functioning recycling effort for tires, car batteries and used engine oils, but paper or glass collection is not available. Nor is the recycling effort extended to cover all possible recyclable materials, e.g. for plastic bottles. Certain components of the recycling process could also function better if a working refund system could be established, e.g. for plastic and glass bottles.

Sometimes the environmental share of costs incurred is not clear for the consumer and the incentive to behave in an environmentally friendly way is lost. The car registration fee is different for cars with a catalytic converter and cars without a catalytic converter. This environmental element is hidden and lost in the combined fee for the technical check-up and insurance. To give car owners a signal and an incentive to use certain kind of cars, it would be preferable to base fees on easily recognizable features and the cause of emissions i.e. engine size or the fuel used.

Sometimes the environmental portion of a consumer price is too small to give any incentive. A good example of a fee which does not give an incentive is included in the gasoline retail price - the financing of environmental activities accounts for 0.11 per cent of the retail price. This is too small to be noticed by consumers and at the same time the revenue collected is paltry.

In the current economic situation, where purchasing power has risen 57 per cent since 2002, increasing a carefully selected and designed set of environmental charges and non-compliance penalties could be politically acceptable. Increasing the charges would make them more effective in improving the environment while generating revenues for financing public investment in infrastructure development. Increased charges with higher revenue generation would be attractive to public policy-makers and would send consistent signals to municipalities and industry to develop long-term environmental strategies for emission, effluent and pollution prevention.

To maintain the effectiveness of any economic instrument, the levels of fees and charges should be revised frequently and increased in line with inflation if necessary.

Recommendation 5.3

To find effective economic instruments, streamline their use, make the fees and charges effective and maintaining the effectiveness the Government should:

- a) Conduct studies and analyses on the effects of environmental economic instruments*
- b) Use the existing instruments more efficiently and give the correct environmental incentives by using appropriate base or unit on which the charges are levied on*
- c) Strengthen the effect of selected economic instruments by raising the levels of charges*
- d) Maintain the effectiveness of the charges by applying the inflation corrections to the charge levels*
- (e) Use the proceeds from levies and charges to the benefit of protecting the environment, e.g. via Environment Investment Programme.*

The next step for improving the use of economic instruments, after clarifying policy objectives, is to evaluate the financial impact of environmental charges and their ability to instigate changes in use and consumption patterns. At the moment, there are no studies available on the effects of the environmental charges; nor are there any cost-benefit analyses when charges are used. The use of economic instruments is an optimization problem of attaining maximum effect at the lowest cost. Conducting studies on economic instruments requires sufficient manpower, a high level of expertise in the field, knowledge of economic instruments, and readily available information.

Recommendation 5.4

To strengthen its capacity and competence to develop, apply and analyze economic instruments used for environmental protection, the Ministry of Environment and Physical Planning, should:

- a) Enable the respective staff to have access to training in environmental economics and the principles of the use economic instruments and their implementation*
- b) Conduct studies and analyses on the effects of environmental economic instruments*
- c) Compile a centralized database on the national environmental revenues and expenditures*
- d) Consider establishing an Environmental Investment Agency*

Municipalities have to make important and complicated decisions when deciding on the water and waste charge tariff levels. They also have to deal with social and equality concerns while taking into consideration the local political situation when issuing tariffs. Municipalities do not necessarily have sufficient expertise to solve issues like this on their own.

Recommendation 5.5

The Government should develop guidelines to assist municipalities with tariff calculation and provide training to this end.

Chapter 6. Prevention and control of environmental pollution

The country is undertaking a great effort to modernize legislation, and to adopt the corresponding rulebooks for their implementation. The existing legal set-up for integrated pollution prevention and control allows the establishment of requirements to be fulfilled by the companies. A major remaining gap to implement IPPC is the updating of MACs for emissions from point sources to air and water. There are also some major strategies and action plans to be developed, including a programme for emission reduction.

Recommendation 6.1

The Ministry of Environment and Physical Planning in cooperation with the Ministry of Economy (Standards Commission) should update environmental standards to comply with the EU legislation

Recommendation 6.2

The Ministry of Environment and Physical Planning should develop the National Programme for Emission Reduction and promote its adoption.

MoEPP is reorganizing itself to be able to respond to needs; and develop and implement legislation, strategies and action plans. However the capacity of the IPPC Unit is not efficient enough to deal with applications in a timely manner. Municipalities have extended responsibilities on environmental management, but are even more understaffed. An example is reported that inspectors from larger municipalities cannot ascertain whether all companies requiring a Type B IEP have applied for it, and companies might not know that they have to apply. A great deal of effort will be required to establish central, inter-municipality or regional, and municipal administrative and expert institutions that are operative and cooperate with each other.

Although there are advancements on the legislation, it is still not possible to see the results in terms of environmental improvement. This is a process that takes time, but companies need to make a real effort to comply with the adjustments to the operational plan in due time. In order to encourage persistent compliance, it is crucial to establish constant monitoring and proper enforcement by using the data. A first assessment of the implementation of adjustments to the operational plans is currently being prepared, when some companies have had the permit for two or three years, which shows limited enforcement. Given the relatively small number of large emitter companies, there is an opportunity to establish direct communication with the specific companies and work to improve reporting and data quality. For Type B IEP companies, the challenge is bigger due to their large number and differences in the capacities of the municipalities. This calls for improved coordination between central and municipal level, and also for increased inter-municipality cooperation.

Recommendation 6.3

The Ministry of Environment and Physical Planning, in cooperation with the Ministry of Local Self-governance and municipalities should:

- a) Reinforce capacity-building for the IPPC Unit staff on technical aspects;*
- b) Carry out a survey of existing installations that need a permit (A or B);*
- c) Provide technical assistance to assess IPPC applications.*

With the upgrading and updating of legislation that is taking place in the country, companies are faced with a large number of new requirements, and in some cases installations are so far from meeting the BAT that they run a real risk of closure by 2014. Significant investment in advanced technologies, equipment and practices would enable these industries to operate economically and with due regard for the environment. However, most companies lack the technical knowledge on what to do to improve their environmental performance and the market of consultants is still not developed in the country. On the other hand, in its transition to a market economy, the Government has been privatizing some companies and continues to actively seek to privatize other larger companies. Notwithstanding, many Central and Eastern European countries in similar situations have experienced problems in attracting foreign direct investment because of concerns

over liability for past environmental damage and contamination. It is known that companies only comply if the market requires it, if consumers exert pressure, or there is enough enforcement or incentives.

Recommendation 6.4:

The Government should:

- a) Create incentives, such as low interest loans, tax exemptions, or specific funds and other financial mechanisms (awards, etc) to encourage the application of better practices and introduction of clean and modern technologies to enable enterprises to be compliant with requirements of the environmental legislation;*
- b) Consider establishing a revolving fund to which companies would apply for low interest loans.*

Chapter 7. Sustainable management of water resources

Capacity deficiencies in key institutions; lack of political will to tackle and resolve serious issues; fragmented management of water between sectors and institutions with little regard for conflicts between social, economic and environmental objectives and hence no accountability; and finally, overall poor implementation and enforcement capacity on national and local levels, lead to poor water governance at present.

Through the reorganization of MoEPP, the 2008 Law on Water and the second NEAP accompanied by strategy papers, recommendations and support reports from international institutions, the country achieved an appropriate framework for sustainable water management. The environmental issue for water bodies is now embedded into legislation. The country has to start implementation, which can be achieved mainly through adequate investment. The main objective is integrated water management based on the principles of sustainable development for river basins in transboundary international cooperation.

Although MoEPP has been strengthened in the water management sector there is still overlapping in responsibilities and competencies between different ministries and a lack of institutional coordination and sometime inefficient performance. MAFWE is still responsible for functions of irrigation and protection of waters from pollution from agricultural resources (nitrate pollution). Hydrometeorological Institute (HMI) is responsible for quantitative and qualitative water monitoring, while agriculture is one of the biggest water user at the same time. In the past, this side tended to emphasize water supply and water use rather than water protection or ecological issues.

Recommendation 7.1

The Government should consider establishing an Environmental Protection Agency with the responsibilities according to the Law on Waters.

See recommendation 1.2.

Wastewater treatment from point sources (municipalities and industry) remains a big challenge. Only 10 per cent of the settlements have access to mechanical and biological treatment of wastewater. Bigger cities have no sewage treatment plants. The average rate of wastewater collection in sewerage collection systems is around 60 per cent for households. Although certain rural areas have developed combined domestic sewerage and storm wastewater collection systems, no treatment is performed prior to wastewater discharge. This situation is getting worse during low flow rates in rivers during summer due to lower sewage dilution. Industrial wastewater is discharged without prior treatment, or pretreatment takes place in poorly maintained and inefficient facilities. Beside organic matter, toxic sewage is being discharged into rivers. In addition, landfills within the reach of rivers or lakes are a further source of pollution by infiltration or run-off into surface water and groundwater.

Recommendation 7.2

The Government should:

- (a) Ensure construction of municipal sewage treatment plants with and sewage collection systems for cities over 100,000 equivalents as a first priority and for municipalities over 10,000 equivalents as a secondary priority. Sewage collection systems should emphasise on separating wastewater from storm water, while the storm water should be returned to the hydrological circle by infiltration. Deteriorating drinking water supply systems and sewage collection systems should be repaired or renewed;*
- (b) Consider establishing of decentralised sewage treatment systems in rural areas.*
- (c) Ensure that industry apply appropriate wastewater treatment prior to discharge according to national standards.*
- (d) Close and remediate all land fills along river banks exposed to flooding and infiltration.*
- (e) Ensure special regime of protection of areas of drinking water supply.*

In response to climate variability and climate change, water uses, especially those for agriculture, may increase, while total national water availability (especially in the Vardar River as the main catchment area in the country) is expected to decrease. The summer season could be extended as a result of the temperature rise, but also larger water consumption - not only for irrigation - is expected. The prognostic value of increase on the drinking water demands of Skopje could be around 30 per cent. For that reason the loss of water in drinking network systems and the leakage of degraded irrigation systems (especially Tikves, Bregalnica, Polog) and the awareness and technical device for saving water resources will become a big concern. At 500 l/capita/day, water demand for Skopje lies far above the European average.

Recommendation 7.3

The Government should:

- (a) Ensure rehabilitation of irrigations systems with high water losses and expansion the percentage of closed pipe systems in relation to open systems.*
- (b) Provide measure devices at irrigation systems for water quantity intake and water consumption from farmers.*
- (c) Improve data collection on water consumption by different users.*
- (d) Apply the water-user and water-discharge-pay-principle for all water users and dischargers according to law on waters. The fees must be transparent and related to expenses of provider.*
- (e) Raise awareness of saving water measures and provide water saving technical devices.*

Like in many other European countries, the first step of enhancing the ecological status of rivers and lakes was the improvement in water quality before doing stream restoration of hydromorphology. The EU Water Framework Directive (WFD) requires good ecological status for rivers and lakes, which can be achieved through good water quality and good hydromorphology status of riverbed, banks and flood plains. The EU Flood Risk Management Directive requires flood risk management and protection of retention space in flood plains. Although rivers and partially lakes suffer from wastewater discharges, most reaches of the rivers are not hydromorphologically degraded (except from reservoirs) by channelizing, embankments and loss of flood plains. This offers an excellent opportunity to ensure that most water bodies can reach good ecological status according to WFD once water quality has improved. Dams in rivers and reservoirs are severe interruptions in the structure and the ecology of a natural river. Fish migration, gravel and sediment transport are stopped, and sedimentation, eutrophication, warming, oxygen depletion, etc. occur. Flood plains are part of the river and offer flood retention space as well as water resources from bank filtration.

The natural hydromorphology of most river reaches in the former Yugoslav Republic of Macedonia are remarkable in terms of ecological habitat diversity and their contribution to flood plain protection. The mistakes made by many other European countries can be still avoided. For example in Germany, but also in France, England, Italy and Spain, rivers and streams were canalized, straightened and dammed in the last two centuries, causing river bed degradation in structure and habitat.

Recommendation 7.4

The Government should ensure that:

- (a) The flood plains are left open from further buildings and constructions and intensive agriculture.*
- (b) Agricultural lands exposed to erosion have a sufficient buffer strip to rivers and lakes and cultivation is changed into a manner to protect from erosion.*
- (c) Flood protection includes precise flood predictions and hydrological forecasts.*
- (d) Ecological improvements on dams like fish ladders and fish ways are taken into account and the environmental flow below dams is in place and inspected.*

Transboundary water basin management on rivers and lakes, in cooperation with neighbouring countries, is in preparation (e.g. in the Vardar River basin) and set out in the Law on Water. WFD offers an excellent tool and formal procedure for water basin management:

- Defining water bodies by river and lake typology and groundwater bodies by catchments;
- Displaying artificial and heavily modified water bodies;
- Ensuring biological monitoring for fish, macroinvertebrates, macrophytes, phytobenthos and phytoplankton accompanied with chemical and hydromorphological monitoring for assessing ecological status;
- Performing measurements on pesticides and nitrate in groundwater as well as water abstraction amounts from groundwater;
- Setting up a management plan with programme of measures based on monitoring results;
- Implementing the programme of measures;
- Ensuring public participation (NGOs, stakeholder dialogues, etc.).

WFD is however a formal instrument with long procedures and late implementations of measures required for good ecological status of surface water bodies and groundwater bodies even if ecological deficits are obvious at present.

WFD procedure and WFD process do not delay the urgent measures in wastewater treatment and other urgent measures set out the Law on Water to improve water quality and sustainable water use. Significant measures for ecological improvements are to be accomplished with the framework of WFD, independently of the formal WFD process.

Recommendation 7.5

The Government should:

- (a) Twin arrangements with countries having experience in implementation of WFD and river basin management should be sought, together with their administrative, financial and political support to assist the country in its task.*
- (b) Implement measures according to Water Framework Directive as transposed in the national legislation as well as improvements in water quality for example new sewage treatment plant should be investigated before and after in hydro chemical and especially hydro biological controls of success.*

Chapter 8. Waste management

Given the limited resources available in the country, there are serious pressures on the environment caused by a long period of neglect of waste management throughout the country. The creation of the Waste Management Department in the Ministry of Environment and Physical Planning is a positive development; however, more attention is needed to adequately staff the new Department. For example, at the time of the review, key posts, e.g. on industrial 'historic' waste, were still not filled. Given the problematic situation with regard to both municipal and industrial waste, it is important to ensure that the Department has both an adequate mandate and resources to meet the serious challenges. Due to the internal structure of the Ministry, the Department is limited to implementation rather than planning. As far as planning is concerned, waste management is not covered on higher policy and planning levels within MoEPP.

Recommendation 8.1

The Ministry of Environment and Physical Planning should:

- (a) Ensure adequate staffing for the Waste Management Department,*
- (b) Strengthen compliance to reporting requirements from municipal authorities*
- (c) Streamline data collection and sharing and related procedures in order to achieve higher efficiency in the use of budget and donor resources in cooperation with the State Statistical Office.*

At the time of the second EPR review, all but one of the country's municipal disposal sites operated without licences or any sort of supervision or monitoring. Extensive parts of the country's rural areas and villages are not covered by any waste collections services or, if they are, coverage is not frequent. The majority of medical waste in the country, even if separated at source, is disposed of at municipal disposal sites, with Drisla landfill being the only exception. At the same time, such disposal sites are also grounds for economic activity by the informal sector, and human communities have often developed in the vicinity of these dumpsites. Furthermore, some municipal landfills are inappropriately situated, for example on the banks or rivers or transboundary waters, causing adverse impacts, including transboundary pollution. However, there is no systematic assessment of the health and environmental impacts of existing disposal sites, including assessment of contamination of ground and surface waters from leachate.

Recommendation 8.2

The Ministry of Environment and Physical Planning should:

- (a) Ensure that all municipal disposal sites satisfy licensing requirements for their operation,*
- (b) Expand the mandate of the state inspectorate to clearly include inspections of municipal disposal sites and organise regular inspections of them.*

Considerable resources have been earmarked in the MoEPP budget for the municipalities on projects for the closure or remediation of existing sites; however, there is no systematic assessment of the effectiveness of these projects.

Recommendation 8.3

The Ministry of Environment and Physical Planning should assess the effectiveness and impact of grants by the Ministry of Environment and Physical Planning to municipalities for the closure and/or remediation of illegal dumpsites and municipal disposal sites.

The situation of the country's landfills is worrying, since out of the more than 70 existing municipal disposal sites only one, Drisla, is licensed even if it is not fully sanitary. One possible long-term solution for this problem is to move from municipal-level to regional-level landfills. This is an approach currently followed by the Government: two concession-based and two public-based regional landfills were at the time of the second EPR in advanced negotiations. It is expected that waste collection, transportation services and landfill operation will be run by the private sector. The successful establishment and operation of first two regional landfills is particularly important, as they may set an example for the remaining municipalities in the country. Due to the geography of the regions and the choice of locations for the establishment of the regional landfills, it is important to choose an effective mix of economic and regulatory/enforcement instruments. At the same time, technical/infrastructural solutions such as transfer stations may contribute to the successful operation of the regional waste management system. However, the current road network does not appear to be adequately developed to facilitate the increased flow of waste to the chosen regional landfills. Additionally, the concept of regional landfills does not exist in, and is therefore not adequately regulated by, the existing legal framework.

Recommendation 8.4

To ensure the successful transition from municipal to regional landfills, the Government should ensure that:

- (a) The legal framework is adapted to adequately cover developments on the ground, especially in relation to*

regional landfills, including agreements with different consumer groups.

(b) Tariff structures reflect and integrate actual collection and transportation costs, in order not to penalise more distant municipalities

(c) Adequate compliance mechanisms for monitoring and penalising illegal disposal of waste are put in place waste collection.

Although Reduce, Reuse and Recycle (RRR) practices are strongly promoted in the Law on Waste Management and the key policy documents on waste management, remarkably little is done at the State level to formulate and implement a coherent national policy on this front. Although sporadic initiatives at municipal level sometimes occur, they are not adequate to have a positive country-wide impact.

Recommendation 8.5

The Government, in cooperation with local authorities, NGOs and other relevant stakeholders, should:

(a) Develop and implement a national policy on recycling, reuse and reduction of waste,

(b) Promote public awareness campaigns on Reduce Reuse Recycle (RRR) practices.

In the majority of cases in the country, medical waste is separated at source (hospitals, clinics, and other medical institutions) but is then mixed by public utilities which collect and dispose this waste with other municipal waste. Thus, waste disposed of in municipal disposal sites contains medical waste which may be infectious and hazardous. Since dumpsites are in effect unsupervised and are the site of many economic activities by the informal sector, there are serious risks for public health. Although the current legal framework covers incineration of medical waste, the country possesses only one incinerator, which works beyond capacity and below standard.

Recommendation 8.6

The Government should ensure that an adequate system for medical waste management is in place.

Chapter 9. Forestry, biodiversity and protected areas

The former Yugoslav Republic of Macedonia's goals to sustainably manage State-owned forests and certify its high forests will not be realized until it has the necessary land and resource information systems established and functioning. These include a real estate cadastre of State-owned lands and a comprehensive forest inventory and monitoring programme. It should further include an inventory of non-wood forest products, especially those which may be vulnerable to overuse, collection or exploitation. This inventory should be continuous and accompanied by the introduction of an ongoing integrated monitoring program to track conditions of forest resources, including forest health, timber volume, wildlife habitat, non-wood forest products, and other key resources.

Strong consideration should be made to collaborate with MoEPP to expand the scope of this inventory to encompass vegetation on non-forest lands. That information would be valuable for identifying and assessing whether the current network of Protected Areas fully represents and protects the territory's habitats and biological diversity. The cadastre would also significantly benefit the PA system, as some sites do not yet have recorded boundaries.

In addition, a comprehensive set of environmental indicators is required that provides the core of a monitoring programme. For example, the only current environmental or sustainable development indicator pertaining directly to forest conditions is MK-NI-038 – Forest Fires. A broader suite of indicators is needed that monitor trends of stressors (including impacts of climate change); the condition, health, and productivity of forests; non-wood forest products; and social and economic conditions related to forest management, including forestry sector jobs. These would establish the baseline data for practicing adaptive management, which is the primary mechanism for achieving sustainable development. Two potential sources of indicators include the Convention on Biological Diversity's Indicators of Forest Biodiversity and the Montreal Process Criteria and Indicators.

Recommendation 9.1

The Government should complete a land cadastre.

Recommendation 9.2

The Ministry of Agriculture, Forestry, and Water Economy, the Ministry of Environment and Physical Planning and other relevant stakeholders should

- *Begin conducting a national inventory of all forests.*
- *Design and conduct an inventory of all ecosystems and their land cover that would support a comprehensive assessment of the representativeness of the protected areas network.*
- *Add environmental indicators that address sustainable forest management including wildfire control system and adaptation to climate change.*

The former Yugoslav Republic of Macedonia has not yet prepared its National Red List of Threatened Species and Red Books, even though these are identified as Priority I activities (A.6.2 and A.6.3) in the Biodiversity Strategy and Action Plan. The scientific community does not appear to agree on the status of these species. This may be due to a lack of sufficient data for each of the many endemic and threatened species. Temporary protection measures may not be affording adequate protection of the invaluable biodiversity the country currently supports.

Recommendation 9.3

The Government, in collaboration with the scientific community, should:

- *Complete the inventory and assessment of threatened species;*
- *Adopt a Red List of threatened species and commensurate Red Books for protecting and conserving these species.*

The Government should increase means for law enforcement with regard to poaching and illegal collection of non-wood forest products.

The system of Protected Areas is not fully compliant with the Law on Nature Protection. Examples include: (a) development of management plans for all Protected Areas within two years of proclamation (Articles 98, 99); and (b) establishment of a system of Protected Areas to form an ecological network that provides representation of the diverse habitat types and ecosystems that exist in the territory of the country, that protect the habitat of Red List species, and that contribute to the international ecological networks of Protected Areas (Articles 65, 66). Re-evaluation of existing Protected Areas to ensure conformance with IUCN categories (Article 66) is progressing.

Recommendation 9.4

The Ministry of Environment and Physical Planning in cooperation with the relevant bodies should

- *Complete the reevaluation and re-proclamation of all protected areas in accordance with the Law on Nature Protection.*
- *Continue expanding the system of protected areas in a manner that represents the key habitats important for biodiversity conservation and is supported by local rural communities.*
- *Adopt a management plan for each protected area.*
- *Encourage the implementation of the Emerald Network in line with Natura 2000 guidelines and establish the National Ecological Network, which would include the Emerald Network, other important ecological areas, system of ecological corridors, and proposed areas of conservation.*

The funding of Protected Areas is inadequate and not stable. The Law on Nature Protection established a set of potential funding sources; however, these are very limited. The Law amending the Law on Nature Protection (Official Gazette of the Republic of Macedonia no.47/11) included financial instruments for funding of protected areas. For example, the public institutions for national parks are self-financed, currently through low intensity timber harvesting (sanitation harvests). MoEPP and public institutions are exploring alternative funding sources.

Recommendation 9.5

The Government should strive to increase funding for management of protected areas according to the Law on Nature Protection and also continue developing the legal and economic framework to diversify funding options for national parks and other protected areas.

Chapter 10 Human health and the environment

The burden of disease from environmental health risks was estimated to be as high as 15 per cent of the total burden of disease in the Former Yugoslav Republic of Macedonia, in 2004. Improvements in key health indicators have been reported since 2002. While domestic legislation is being aligned with the EU, the national and regional institutional and human capacities need time, capacity and resources to implement the rapidly changing regulations. Many environment-related laws are under harmonization with EU legislation, but in many cases lack enforcement and implementation. Environment and health policy is often fragmented, and a clear vision and strategy is not apparent in the short term.

Environment and health is officially recognized in the Constitution and a number of regulations; however, the absence of an updated specific dedicated environmental health unit (or capacity) in either the Ministry of Health or the Ministry of Environment and Physical Planning has resulted in a lack of consistent and coherent policy actions, systematic research and communication on environmental health issues. Human and technical resources available in environment and health are in need of strengthening, resulting in insufficient monitoring, reporting and evidence-based policy actions.

Particular attention is needed in response to environmental hotspots, waste management (including medical waste), health service hygiene and maintenance, air pollution, water and waste, as well as systematic information elaboration and sharing in environmental exposures and health effects. The evidence base produced in the country that links health and environmental risks is too weak to help policy-makers in setting priorities. Public funding for research in environmental health is limited. Data on exposure is seldom linked to data on health outcomes, resulting in very limited risk assessment activities. The country reports on only 11 of the 29 indicators in the WHO Environment and Health Information System database.

Although the movement towards sustainable development in the country is evident, a reactive (curative) approach is still the predominant method in the health system, rather than a proactive (preventive) approach. Except for time-bound project activities, the Government lacks a budget planning and reporting process dedicated to overall environmental health programmes, and there is a gap between available financial resources and statutory services compelled by law.

In the national institutes, activities are based on shorter-term projects rather than sustainable programmes. Funding opportunities from other sectors, such as environment (energy efficiency and the green economy), transport, labour, economy and education in issues that are relevant to environmental health, are rarely explored. For example, the intensive health services adjustments, reconstructions and new constructions could be benefitting from clean development schemes, higher energy efficiency, less health care expenditures and health safety under disasters opportunities. Through EU financing mechanisms, there is an opportunity to ensure higher priority for environmental health in projects and initiatives. Greater exploration of regional and subregional initiatives and opportunities may help reduce costs and increase regional/subregional capacity

Recommendation 10.1

The Government should:

- (a) Strengthen the central environment and health function and coordination within the Ministry of Health;*
- (b) Allocate appropriate human and financial resources to environmental health;*

(c) Promote research and systematic sharing of data and information with the aim of contributing to an integrated environment and health information system.

Recommendation 10.2

The Government should:

(a) Update the national environmental health action plan 2 in line with current legislation and circumstances and/or develop a children's environmental health action plan developed, in line with the adoption of the declaration on environment and health at the Parma Ministerial Conference;

(b) Revise urban plans and processes (e.g. transport, construction, urban planning etc), with the aim to improve respiratory health and reduce noise disturbance;

(c) Strengthen the application, control and financial obligations of employers in implementing occupational health measures.

Recommendation 10.3

The Ministry of Health should:

(a) Manage hospital waste and promote the implementation of hazardous waste management practices according to EU regulations;

(b) Ensure drinking water quality control, in particular in rural areas.

*Implementation of 1st EPR recommendations**

Part I: THE FRAMEWORK FOR ENVIRONMENTAL POLICY AND MANAGEMENT

Chapter 1: Legal and regulatory instruments

Recommendation 1.1:

The Ministry of Environment and Physical Planning should develop and implement NEAP 2 and a sustainable development strategy, and it should focus more on instruments for implementation, including, for example, strategic environmental assessment, environmental impact assessment, and integrated permitting.

The Government adopted the second National Environmental Action Plan (NEAP 2) for the period 2006–2011 in 2006. The document, prepared by the Ministry of Environment and Physical Planning (MoEPP) in coordination with different ministries provides general guidelines and directions for the country in the area of environment until 2011. In addition to setting up general priorities and goals in different sectors, NEAP 2 also envisages specific measures and actions that need to be implemented in order to achieve the said goals. MoEPP is the body with overall responsibility for the implementation and updating of the NEAP. The implementation of NEAP 2 is ensured by: monitoring and information systems; integrated pollution prevention and control (IPPC) and voluntary arrangements; inspection and enforcement mechanisms; environmental impact assessment (EIA) procedures; strategic environment assessment (SEA) procedures; access to information and public participation; decentralization and involvement of local self-governments (LSG); and accelerating environmental project preparation at the local level.

In April 2009, the Government adopted the National Strategy for Environmental Investments. The Strategy for Environmental Investments covers the period 2009–2013, and identifies issues with the environmental infrastructure, as well as the priorities, measures and activities for the realization of environmental investments.

In January 2010, the Government adopted the National Strategy for Sustainable Development, which offers the vision and policy for sustainable development for the period until 2030. Based on the Strategy, the Government established the National Council for Sustainable Development.

In the area of the environment, the process of European Union (EU) approximation poses significant requirements for the country not only in terms of financing, but also in terms of capacity improvement, institutional restructuring and strengthening. As a confirmation of this, the Government, through MoEPP, has developed a road map for the approximation of standards and legislation in the area of environment to EU legislation.

Recommendation 1.2:

(a) The Ministry of Environment and Physical Planning in cooperation with other Ministries and institutions should develop and implement a new law on environmental protection as a framework for environmental legislation which includes instruments for environmental management such as an environmental information system and access to it, economic instruments, an environmental impact assessment procedure, strategic environmental assessment and an environmental monitoring system.

(b) The Ministry should also complete stand-alone acts for air, water, protected areas and biodiversity, underground resources, transport, waste and noise, giving the opportunity to bring the legislation in conformity with the relevant European Union directives.

(a) The MoEPP in cooperation with other ministries and institutions developed and is implementing a new

* The first review of the former Yugoslav Republic of Macedonia was carried out in 2002. During the second review, progress in the implementation of the recommendations in the first review was assessed by the EPR Team based on information provided by the country.

law on environment as a framework for environmental legislation. The 2005 Law on Environment replaces the previous law of 1996 with a completely new approach. It contains the fundamental environmental protection principles, which are basis for determination of the procedures for management of the environment and which are common to all the laws regulating particular environmental media. The 2005 framework law contains provisions on all sectors covered by EU legislation on the environment, transposing it into national legislation — namely, access to environmental information; public participation in environmental decision-making; environmental monitoring; the procedures for environmental assessment and environmental liability; eco-labelling and the Eco-Management and Audit Scheme (EMAS).

(b) The Ministry completed stand-alone acts for air, water, protected areas and biodiversity, waste and noise, according to the relevant EU directives. Under the process of legal alignment with the *acquis* in Chapter 27, several additional framework laws and a significant number of by-laws were adopted: the Law on Nature Protection; the Law on Protection against Environmental Noise; the Law on Waste Management; the Law on Ambient Air; and the Law on Waters. These laws are in force. However, full correspondence with the EU directives has not yet been reached.

Recommendation 1.3:

The Ministry of Environment and Physical Planning should give special attention to the full transposition of the European Union's EIA Directives in national environmental legislation. On the basis of the new framework law, a by-law for environmental impact assessment should be drawn up, defining clearly all important steps of the EIA process: screening, scoping, consultations, access to information, decision-making and access to justice. The by-law should decentralize the assessment process in a rational manner, e.g. delegate competencies to local self-government for small-scale activities.

MoEPP gave special attention to the full transposition of the European Union's EIA Directives in national environmental legislation. On the basis of the new framework law, a wide range of secondary legislation was adopted defining clearly the following important steps of the EIA process: screening, scoping, consultations, access to information, decision-making and access to justice. The decentralization process on EIA is ongoing, with challenges due to the lack of capacities among the municipalities.

Chapter 2: Institutional arrangements

Recommendation 2.1:

The Ministry of Environment and Physical Planning should undertake the necessary steps, which could include internal restructuring, to correspond better to the needs of the European Union integration process:

(a) The Department for Sustainable Development should be reinforced. Particular attention should be given to strengthening capacity to prepare policies and strategies, to facilitate intersectoral coordination with relevant ministries, and to coordinate with local authorities in the preparation and implementation of Local Environmental Action Plans and the development of economic instruments.

(b) The Department for European Integration should be strengthened.

(c) Coordination and cooperation between the Department for Legislation and Standardization and the Department for European Integration is of critical importance.

The Government revises annually the National Programme for Adoption of the *Acquis* (NPAA) in order to fulfil the criteria for full EU membership. The document contains details on the activities for implementation of the priorities and objectives in each sector. Chapter 27 of the 2008 NPAA review focuses on the achievements and remaining obligations in the area of the environment. The obligations (or the activities for their accomplishment) are classified as short-term (2007) and mid-term (2008–2010) obligations. Besides NPAA, environmental goals and priorities are contained in other strategic environmental sectoral documents.

In order to strengthen the coordinated implementation of environmental policy, in February 2009 the Government adopted the Plan for Institutional Development of Environmental Management Capacity at the National and Local Levels 2009–2014. The Plan integrates all the work programmes of MoEPP and provides guidelines for the development of the capacity of the Ministry and the local self-government units for environmental management and implementation of legislation.

The administrative capacity of the environmental authorities at all levels will be strengthened by gradually increasing the number of the staff and their training by visiting international training courses and workshops.

MoEPP has taken steps to restructure internally in order to ensure that its structure better corresponds to the needs of the EU integration. MoEPP has grown significantly in the past few years in terms of human capacity. Nevertheless, for the purpose of efficient implementation of environmental legislation, appropriate solutions will need to be identified to strengthen administrative capacities in MoEPP, especially on approximated environmental laws and ratified international agreements, but also in other ministries that manage sectors closely related to the environment and nature protection. This is especially connected with drafting and developing legislation, strategies, policies and projects.

Currently, MoEPP is organized into nine departments or sectors, further organized in units as well as three bodies within MoEPP as constituent parts, i.e., the State Environmental Inspectorate, the Administration for Environment and the Office for the Spatial Information System. These bodies operate as separate entities and in accordance with legal regulations and other legal acts governing issues within the sphere of competence of MoEPP.

Recommendation 2.2:

The Ministry of Environment and Physical Planning should give the highest priority to strengthening its implementation bodies — the Environment Office and the State Environment Inspectorate:

(a) The Environment Office should be strengthened and reorganized into an executive environment agency for the implementation and enforcement of environmental legislation and fully oriented to the requirements of environmental management. In this regard, the agency should, as a minimum, consist of an environmental monitoring centre (providing monitoring of all environmental media), an EIA and permitting division (dealing with single permits: air, wastewater, waste, as well as with integrated permits), and a division for laboratory research. (See also recommendation 4.2.)

(b) The State Environment Inspectorate should be strengthened at local levels with small units of two or three specialists and appropriate equipment. Coordination among the different inspectorates, especially where they share responsibilities in environmental protection should be streamlined through a better exchange of information and joint site visits or site inspections. (See also recommendations 12.4 and 14.5.)

(a) The 2005 Law on Environment, for the purpose of carrying out expert activities related to environmental media and areas, prescribes the establishment of the Administration of Environment (AE) as a body responsible for expert activities in the area of the environment. The Administration of Environment is an integral part of MoEPP. It started with a staff size of about 25 to 30 people and is growing both in terms of human capacities and in the number of units. It performs professional activities in the area of nature protection, in waste, water, air, soil and noise protection and in other environmental areas.

The Administration of Environment will also regulate the EIA procedure for projects and the procedure concerning integrated environmental permitting and compliance permitting; and it will manage the Cadastre of the Environment and the Register of Pollutants and Polluters, including their characteristics. It will be responsible for monitoring environmental performance, as well as for permitting procedures and other activities stipulated by law.

(b) As of January 2011, the State Environment Inspectorate (SEI) consists of the Director, who coordinates the activities of the Inspectorate, and 13 State inspectors for the environment located in Skopje (five), Tetovo (three), Bitola (one), Gostivar (one), Strumica (one), Stip (one) and Veles (one). At the same time, as a transitional measure, five of those inspectors perform the function of State nature protection inspector (Skopje (three), Strumica (one) and Bitola (one)). In addition, SEI has 10 branch offices

Chapter 3: Economic instruments and privatization

Recommendation 3.1:

The Ministry of Environment and Physical Planning should develop an effective system of pollution charges, in cooperation with other ministries and stakeholders. A first attempt should be made by further elaborating the legally binding provisions of this system. (See also recommendation 6.6.)

The polluter pays principle is integrated in the 2005 Law on Environment. However, often the secondary legislation is missing or the charges are not defined, which in effect makes the charge system ineffective. Environmental protection works mainly through a permit system and money collected from the different permits and car registration fees is channelled to the central budget.

Recommendation 3.2:

The Ministry of Environment and Physical Planning, should strengthen its competence to develop economic instruments for environmental protection. The respective staff should have access to training in environmental economics and the principles of economic instruments and their implementation. (See also recommendation 2.1.a.)

Although strengthening capacity in the area of environmental economic instruments was one of the Ministry's priorities, there is no staff specially working in this field within MoEPP. MoEPP staff have participated in some training seminars. The seminars, however, were much broader in scope, although they tackled some environmental economic instrument issues. Several training and study tours were also organized under the Priority Environmental Investment Programme (PEIP) within the framework of the Regional Environmental Reconstruction Programme for South Eastern Europe (REReP).

Recommendation 3.3:

(a) The Government should, as soon as possible, clarify the status of the Environmental Fund as an independent financing institution for environmental protection with clear and transparent management and independent supervision.

(b) The Environment Fund, in cooperation with the Ministry of Environment and Physical Planning, should develop a financing strategy that describes objectives and sets priorities among the different environmental projects, consistent with the national environmental policy goals, particularly those contained in the NEAP.

(a) Since its establishment, the Environmental Fund was exposed to various political and economic conditions, which led to frequent changes in leadership and the lack of a long-term strategy for its operations. The perception of the stakeholders was that the Fund lacked clearly defined priorities and transparent financing strategies and procedures. Based on the recommendations of the International Monetary Fund (IMF), and with the 2005 Law on Environment in place, the Fund ceased its operations in 2005. MoEPP is now administering the environmental investment programme and environmental investments.

(b) The National Environmental Investment Strategy for the period 2009–2013 was adopted in 2009. The Strategy is not only a structured platform for environmental investment during the period 2009 to 2013, but also a tool contributing to the approximation with the EU acquis as well as meeting the environmental objectives of the country.

Recommendation 3.4:

The Government should increase the role of the Ministry of Environment and Physical Planning in privatization and insist on the introduction of environmental audits or environmental impact assessments for industrial enterprises undergoing privatization. The Privatization Agency should include environmental clauses in the sales contracts for the privatization of enterprises. (See also recommendation 11.3.)

The privatization process is mostly finalized. However, no environment audits or EIAs were included for industrial enterprises undergoing privatization.

Chapter 4: Environmental information and public participation**Recommendation 4.1:**

(a) A new law on access to environmental information in accordance with the Aarhus Convention should be prepared by the Ministry of Environment and Physical Planning and adopted by Parliament. It should include a clear description of the rights of the public to have access to environmental information.

(b) The Ministry of Environment and Physical Planning, in close cooperation with other public authorities, should prepare a strategy for the implementation of the Aarhus Convention. It should require certain legislative changes and strengthen the capacities of Government officials at all levels and local non-governmental organisations to enable broad public access to information and public participation in decision-making processes.

The country has gradually established a supportive legal and regulatory basis for the implementation of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. Key legislation includes the Law on Environment and the Law on Access to Information of a Public Character.

Recommendation 4.2:

The Ministry of Environment and Physical Planning, in cooperation with relevant institutions, should develop a centralized, strategic monitoring programme capable of delivering the environmental information needed by all decision makers. Such a programme should harmonize the disparate methods, standards and indicators currently in use by various monitoring authorities and ensure a closer alignment of monitoring data and environmental policy objectives. (See also recommendation 7.3.)

In 2006, the Government adopted the National Environmental Monitoring Strategy. The Strategy focuses on three main issues: institutional issues; monitoring methods and parameters; and reporting obligations. To implement it, MoEPP started a process of establishing a State monitoring network on the environment covering air, water, biodiversity, waste and noise.

Recommendation 4.3:

The Ministry of Environment and Physical Planning should improve the flow of environmental information between the Ministry and other entities involved in environmental data and information by further developing a national environmental information system.

In 2005, the Government approved the Strategy for Environmental Data Management in the country. The Strategy set up the institutional, technical and technological framework for the development of a national environmental information system. The system has to provide optimized environmental data flow between all relevant institutions and to integrate all available environmental data in one functional piece. All environmental data and information obtained by various monitoring networks and self-monitoring originating from different institutions, entities and bodies are now submitted to MoEPP.

Recommendation 4.4:

The Environmental Information Centre should collaborate with the State Statistical Office on the collection of data on the discharges of pollutants, taking into account the ongoing negotiations on the PRTR protocol,

under the Aarhus Convention. The State Statistical Office should incorporate relevant environmental indicators in the Statistical Year Book. (See also recommendation 14.1.)

The Sector for Environmental Information Centre within MoEPP manages databases on air, wastewater and waste on the basis of data submitted by enterprises. Since 2007, the State Statistical Office (SSO), jointly with MoEPP, has been producing every second year a publication on environmental statistics. The yearly SSO publications include basic environmental statistics. MoEPP published “Environmental Indicators” in 2008. In 2010, SSO published the statistical compendium “Sustainable Development, 2010”. The publication follows the structure of the set of indicators defined in the EU strategy for sustainable development.

Recommendation 4.5:

The Public Relations Office of the Environmental Information Centre should be linked with the citizen information centres established in the municipalities. The Ministry of Environment and Physical Planning should focus on a strategy for the dissemination of environmental information. Within this strategy, the Environmental Information Centre should consider publishing State-of-the-Environment Reports both in print and on the Internet, as well as executive environmental information, i.e., headline indicators.

In 2004, the Strategy for Communication on Environment and the Environmental Awareness Strategy were adopted by the Government to guide MoEPP activities in these two areas in the period 2004–2008. The Public Relations Office within MoEPP has organized numerous awareness-raising campaigns on specific topics. A green eco-bus, a technically equipped mobile public communications office, and other innovative means have been used as specific tools to communicate with and reach citizens.

Chapter 5: International cooperation

Recommendation 5.1:

The Ministry of Environment and Physical Planning should develop a strategy for international environmental cooperation, by taking the lead in initiating a consultative process at the national level, involving related Ministries and institutions.

The strategy should clearly identify major challenges, present national achievements, and main needs for technical cooperation, co-financing and foreign investment in the environment.

The Strategy should be developed by ensuring the maximum degree of public participation, and by promoting international environmental cooperation and agreements in media and public awareness campaigns.

The strategy should be used to promote the international cooperation priorities within the coordination mechanism set up by the Sector of European Integration at Government level, and presented to and considered by the Committee of Ministers for the Coordination of Foreign Aid.

The National Environmental Investment Strategy (NEIS) for the period 2009–2013 forms the basis for the future programming of environmental investments in the country. The NEIS is based on directions and recommendations given in existing strategic environmental documents, such as the second NEAP and the National Strategy for Environmental Approximation. The NEIS identifies an initial list of projects of solid waste management and priority environmental investment, which mostly focus on water supply and wastewater projects. Sources of financing include the central Government budget, the Instrument for Pre-Accession Assistance, bilateral donors and other contributions.

However, the Strategy does not cover aspects of international environmental cooperation and coordination. Coordination of foreign assistance is centralized, with a major role played by the Sector of Foreign Assistance within the Secretariat for European Affairs. The overall structure for coordination of foreign assistance has

recently undergone some changes, in line with the recommendations of an independent evaluation of the donor coordination mechanism and structure in the country, completed in mid-2008. Based on the outcome of this evaluation and recently held donor coordination meetings, it was agreed to introduce the Programme-Based-Approach (PBA) in five priority programme areas, including the environment. Assessment and PBA implementation plans for the five programme areas will be carried out by senior-level working groups consisting of Government representatives and international partners. The PBA implementation plans for each of the five programme areas will be consistent with the national development priorities and the EU accession agenda of the country by establishing a single results framework. Based on the outcome of the ongoing work and the PBA implementation plan for the environment programme area, a separate strategy for international environmental cooperation might not be needed anymore.

Recommendation 5.2:

The Ministry of Environment and Physical Planning should:

- *Prepare management plans in compliance with the European Water Framework Directive at the national level, and bilateral agreements for the major transboundary natural resources and water bodies;*
- *Accede to and implement the ECE Helsinki Convention on the Protection and Use of Transboundary Watercourses and International Lakes;*
- *Take measures to support bilateral and multilateral agreements to implement the ECE Espoo Convention on Environmental Impact Assessment in a Transboundary Context;*

The Government of the former Yugoslav Republic of Macedonia should ratify as soon as possible the ECE Convention on Long-range Transboundary Air Pollution protocols to which it is still not a Party.

Preparation of water management plans for Lake Prespa and Lake Ohrid is currently under way. These plans are in accordance with the EU Water Framework Directive and bilateral agreements. Various donor-funded projects have also focused on capacity-building aimed at the development of river basin management plans for the Drin River Basin (Swedish Environment Protection Agency (EPA)), the Strumica River Basin (Flemish Cooperation Programme) and the Vardar/Axios River Basin, including the Lake Dojran sub-basin (EuropeAID-Community Assistance for Reconstruction, Development and Stabilisation (CARDS)). These river basin management plans are still to be prepared, in compliance with the current Law on Waters, which is harmonized with the EU Water Framework Directive, and the Water Strategy.

The country has not yet acceded to the ECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention). Upon the request of MoEPP, the secretariat of the Water Convention provided guidelines for the Convention's implementation, which will assist the Government in its efforts to achieve compliance with the requirements of the Convention. With the support of the secretariat of the Convention and Sweden, a workshop concerning the Water Convention was organized in October 2009, in Skopje. This workshop and the guidelines for the implementation of the Convention are regarded as important steps contributing to the strengthening of national capacity in the context of ratification and implementation of the Water Convention.

Although the former Yugoslav Republic of Macedonia ratified the Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) in 1999, following which the requirements of the Espoo Convention were incorporated in the Law on Environment, so far, no EIA procedure has been carried out in a transboundary context. A multilateral agreement among the countries of South-Eastern Europe for implementation of the Espoo Convention (the Bucharest Agreement) was signed by the country in 2008, but the agreement has not yet entered in force.

In 2010, the country ratified the protocols to the ECE Convention on Long-range Transboundary Air Pollution.

Recommendation 5.3:

The Government of the former Yugoslav Republic of Macedonia should undertake more concrete measures for complying with those conventions to which it is already a Party.

Since the first EPR (2002), MoEPP as competent authority for most of the country's multilateral environmental agreements (MEAs) has made many efforts to comply with provisions of MEAs to which it was already a Party at the time of the first EPR. National reports, as well as thematic reports, have been regularly prepared for the biodiversity and nature conservation related agreements, the United Nations Framework Convention on Climate Change (UNFCCC), the Montreal Protocol, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, as well as the regional ECE conventions (the Aarhus Convention, the Espoo Convention and the Convention on Long-range Transboundary Air Pollution). Additionally, sectoral strategies and action plans have been developed, such as the Biodiversity Strategy and Action Plan and the national communications to UNFCCC. Work is also under way to update some of these documents. Specific requirements under these MEAs have been incorporated in the Law on Environment, as well as sectoral and secondary legislation in line with the EU acquis. National focal points for the MEAs are all located within MoEPP and participate actively in relevant international and regional meetings. Furthermore, the country has been actively involved in various projects and activities which support the implementation of the MEAs, led by bilateral and international donors. In general, compliance with the MEAs to which the country was already a Party at the time of the first EPR has improved; the emphasis should now be placed on the national enforcement of laws to implement them.

Recommendation 5.4:

The Ministry of Environment and Physical Planning should continue its support for capacity-building in municipalities' environmental management, and seek the cooperation of the international donor community in the development of LEAPs and programmes to support public participation, information and project development at local level.

Strengthening environmental management at the local level, including the development of Local Environment Action Plans (LEAPs), has been included in various national strategic documents, such as the second NEAP and the National Strategy for Environmental Approximation. The preparation of LEAPs has also been included in the Law on Environment and a methodology for the preparation of LEAPs has been developed by MoEPP. The preparation of LEAPs for municipalities has been well under way and, as of the beginning of 2011, 64 out of 85 municipalities in the country have prepared LEAPs. Financial and technical support for LEAPs and strengthening the local capacity of the municipal administrations has been received from international donors. Two Instrument for Pre Accession Assistance projects are currently being undertaken that focus on strengthening local capacities for environmental management in the area of air quality and waste management.

PART II: MANAGEMENT OF POLLUTION AND OF NATURAL RESOURCES**Chapter 6: Water management, including protection of lakes***Recommendation 6.1:*

The Government should urgently set up an inter-ministerial working group consisting of the five key administrations in water management, i.e., the Ministry of Agriculture, Forestry and Water Economy, the Ministry of Environment and Physical Planning, the Ministry of Health, the Ministry of Transport and Communications and the Ministry of the Economy, together with their associated specialized institutions. This inter-ministerial group should be responsible for the further preparation of the upcoming integrated water management plan. The plan should cover water use and supply, water quality protection and conservation, and water flow management.

Since the beginning of 2011 the water management section of MoEPP was strengthened at the ministry and municipal levels. But responsibilities on water are still spread among various bodies. For example, monitor-

ing of drinking water belongs to the Ministry of Health. Irrigation, drainage, flood protection and monitoring belong to the Ministry of Agriculture, Forests and Water Economy (MoAFWE). The Hydrometeorological Administration (HMA) is subordinated to MoAFWE and the Hydrobiological Institute (HBI) to the Ministry of Science and Education. The Ministry of Transport and Communications (MoTC) is responsible for water supply, and piping and sewerage systems for dwellings.

MoEPP has been strengthened with inspectorate units (14 inspectors), penalty provisions and Geographical Information System (GIS). The Administration of Environment of MoEPP has its own Sector of Water, with three units for planning and management, water protection and Lake Ohrid protection.

The adoption of the Law on Waters represents important progress on water management, by settling a year-long dilemma regarding responsibilities for water management. It is also a step towards the transposition of the Water Framework Directive; the Law on Waters gives an adequate framework for sustainable water management, for qualitative and quantitative water protection, for water use and for wastewater control. Implementation and enforcement will be the biggest challenge for this framework. As of 1 January 2010, the establishment of water management bodies fell under the responsibility of the MoEPP.

Recommendation 6.2:

The Government should propose to Parliament that the Ministry of Environment and Physical Planning be the responsible authority for water resource management and protection. The Ministry of Environment should be entrusted with the implementation of the water management plan, including water monitoring, and it should be given the task of issuing licences and permits for water use and water discharges, and implementing the user-pays and polluter-pays principles.

The recommendation was partially achieved by the latest MoEPP reorganization. However, qualitative and quantitative monitoring of surface water and groundwater is carried out by HMI under MoAFWE. HBI on Lake Ohrid is subordinated to the Ministry of Science and Education.

Recommendation 6.3:

The Government, after designating the Ministry of Environment and Physical Planning as the responsible authority for water resource management and protection, should create an appropriate structure to assist the Ministry in implementing its enlarged tasks. These tasks should include the introduction of a river basin management planning approach working on the experience gained through the Lake Ohrid Conservation Project. Twinning arrangements with countries having experience in river basin management should be sought, together with their technical, financial and political support, to assist the country in its task.

Significant steps have been taken, including the adoption of the Law on Waters, which transposes the Water Framework Directive; preparations for the implementation of this recommendation are also being carried out, e.g., the identification of surface water bodies in the Vardar River Basin. However, identification of ground-water bodies and stream typology with references for aquatic bio-communities, as well as monitoring and evaluation systems for ecological status according to WFD with five biocomponents, are still missing. Public participation on water issues is weak. A water master plan with a programme of measures is still missing, but in preparation. Nevertheless, the Lake Ohrid Conservation project is a model and cornerstone for surface water management.

Recommendation 6.4:

The Government should show its support for the Lake Ohrid watershed management by:

- *Updating the legislation giving official status to the watershed management and related management objectives and institutions;*
- *Calling for the development of a management plan for the lake;*
- *Giving official status to and reinforcing the present management board for the protection of Lakes Ohrid and Prespa;*

- *Mobilizing the international community and partner countries to help consolidate the integrated management approach for the transboundary Lake Ohrid catchment area.*

The Government has taken some steps to implement this recommendation. The Lake Ohrid Conservation project is a good example. However, since the end of the project in 2003, work in this area has slowed down.

Recommendation 6.5:

The Government should take measures to enforce the principle that all users should pay for the water they use. For those people who cannot afford to pay, the Government, together with the municipalities, should work out a system of social compensation.

The public water companies are responsible for the supply of water and the collection and treatment of wastewater. Water prices are proposed by the water companies and approved by the communal authorities. Since the last EPR, the water metering situation has improved markedly and currently most households have water meters installed. The collection rate has also gone up; in Skopje it is around 80 per cent and there are plans to move to remote meter reading. Water and sewerage service charges differ from municipality to municipality. Skopje charges in 2010 for households were: water with sewerage, 29.39 denars per cubic metre (m³); water without sewerage, 17.25 denars/m³; and sewerage only, 12.12 denars/m³. For enterprises, the charges were much higher: water with sewerage, 65.80 denars/m³; water without sewerage 45.63 denars/m³; and sewerage only 19.17 denars/m³. In Veles, the water price for households in 2010 was 30.4 denars/m³ and sewerage 5.45 denars/m³. For an enterprise, water cost 60.25 denars/m³ and sanitation 8.68 denars/m³.

Recommendation 6.6:

The Government should prepare legislation to implement the polluter-pays principle according to the provisions of the Law on the Environment and Nature Protection and Promotion and the Law on Waters. Pollution charges should be introduced and in a first step implemented only according to few parameters, i.e., major pollutants and toxic elements. Collected pollution charges should be redistributed to stimulate the reduction of pollution discharges. (See also recommendation 3.1.)

There were no significant changes in implementation of sustainable water management.

Chapter 7: Air management

Recommendation 7.1:

The Ministry of Environment and Physical Planning, in cooperation with the Ministry of Health, should speed up the development of the new law on air quality including the development of the framework for air quality management and the setting of new air quality standards. In developing the new law, the Ministry should take into consideration not only European Union (EU) approximation but also a national air management strategy coherent with the Environmental Impact Assessment (EIA) and Integrated Pollution Prevention and Control (IPPC) strategy. Special attention should be paid to all issues relating to its enforcement, including the sharing of responsibilities between local self-government and national levels.

The Law on Ambient Air Quality was adopted in 2004 and it establishes the system for the management of ambient air quality. The Law defines the obligation for the adoption of the National Plan for Ambient Air Protection and the Programme for Ambient Air Pollution Reduction and Quality Improvement. According to the Law, the Plan and the Programmes should be adopted within six years after the Law enters into force. So far, the country has not complied with this requirement. The elaboration of the National Plan for Emission Reduction and the National Plan for Ambient Air Protection is planned for 2011.

Recommendation 7.2:

The Ministry of Environment and Physical Planning should establish a unit dealing with air management issues which would be responsible for the preparation, implementation and evaluation of the national clean

air strategy as well as for developing cooperation with all partners interested in air management (ministries, industries, non-governmental organizations (NGOs)).

The unit dealing with air management has not been yet established. The Unit for Risk Management and Atmosphere was established within the framework of the Department for Industrial Pollution and Risk Management of the Administration for Environment.

Recommendation 7.3:

(a) The Ministry of Environment and Physical Planning should coordinate and formalize the activities of the different networks involved in air quality monitoring through agreements and memoranda of understanding. (See also recommendation 4.2.)

(b) The Ministry of Environment and Physical Planning in cooperation with the Ministry of Health should identify monitoring objectives, data quality objectives, quality assurance and quality control procedures. (See also recommendation 14.1.)

In 2006 the Government adopted the National Environmental Monitoring Strategy. The Strategy focuses on institutional issues, monitoring methods and parameters, and reporting obligations. To implement it, MoEPP commenced a process of establishing a State monitoring network on the environment, including air. In 2010 it set up a working group that reviewed the existing monitoring stations and parameters used by MoEPP, the Republic Health Institute (RHI) and the Hydrometeorological Administration (HMA) with a view of integrating these stations into a single State network. MoEPP has prepared a draft decree on establishing a National Environmental Monitoring Programme.

Recommendation 7.4:

The Ministry of Environment and Physical Planning should develop appropriate strategies for implementation of the Protocols to the ECE Convention on Long-range Transboundary Air Pollution. (See also recommendation 5.2.)

The Ministry of Environment and Physical Planning is considered analyzing costs and benefits for the ratification and implementation of the protocols to the ECE Convention on Long-range Transboundary Air Pollution.

Chapter 8: Waste management

Recommendation 8.1:

The Ministry of Environment and Physical Planning should establish a comprehensive strategy to stop the contamination of soil and groundwater by stored chemicals and other hazardous waste and to initiate soil remediation programmes in cooperation with the Ministry of Agriculture, Forestry and Water Economy. The strategy should include the establishment of a legal system for waste classification.

The recommendation has been implemented. A Waste Management Strategy, with the objective to define specifically the long-term needs in the area of waste management, as well as the necessary legislative measures for enforcement, was adopted in 2008.

Recommendation 8.2:

The Ministry of Environment and Physical Planning should review the draft national solid waste management plan as soon as possible, taking into consideration the spatial plan for waste management and more awareness-raising. Upon approval, the Government should allocate sufficient staff and financing to the Ministry of Environment and Physical Planning to guarantee successful implementation.

The recommendation was partially implemented. The National Waste Management Plan was adopted in 2009. It assessed prevailing conditions at the time and made basic recommendations, outlining activities as well as resources and financial mechanisms in the waste management process for the subsequent six-year period.

Recommendation 8.3:

The Ministry of Environment and Physical Planning and the municipalities should act decisively to decrease the use of illegal dumps in rural areas.

The recommendation was partially implemented. There are ongoing projects regarding these issues. MoEPP and Swedish Environment Protection Agency signed a new agreement for cooperation on preparation of a programme for closure of municipal landfills that are not in compliance with the EU standards, as well as strengthening the capacity of the State Environmental Inspectorate in the area of inspection and supervision of municipal landfills. Also, within the Instrument for Pre-Accession Assistance projects components 1 and 3, relevant documents for the establishment of an integrated and financially self-sustainable waste management system have been developed. These should be implemented in three regions, while strengthening central and local capacity in waste management. For another two regions, the call for expression of interest for the concession/public-private partnership award on integrated waste management had reached its second phase at the time of the review. It is expected that the decision on the company will be announced in the last quarter of 2011.

Recommendation 8.4:

The Ministry of Health and the Ministry of Environment and Physical Planning should extend the separate collection and incineration of medical waste to areas outside Skopje as a first step in a separate waste collection system.

The recommendation was partially implemented. Implementing the draft national solid waste management plan requires major investments. The incineration of medical waste from the Skopje medical centres at the Drisla landfill site is one of the few exceptions to the overall practice of waste disposal in landfills. It is an important example of waste separation and reduction of the risks associated with contagious and infectious waste.

However, for its realization, a priority technical measure is investment in the treatment facility for medical hazardous waste; the project will provide a definitive solution for the disposal of medical hazardous waste through a new contemporary incineration plant on the location of the Drisla landfill and through landfilling of the incineration residues. The new incineration plant shall be planned to enable the expansion of capacities and technical up grading in order to co-incinerate select combustible hazardous waste generated in the country.

Important temporary technical measures may be investment in facilities for safe temporary storage of hazardous waste. Storage may be executed on assets of waste generators or on assets of licensed private enterprises. Waste storage may be executed as a service activity. The stored hazardous waste can later be pretreated or disposed of within the country or exported by licensed services and the trade sector.

Recommendation 8.5:

The Ministry of Environment and Physical Planning together with the association of municipalities, "ZELS", should assist those municipalities interested in the privatization of public enterprises by developing a strategy to make public enterprises more economically attractive. A best practice guide based on experience in other countries, standard procedures for tendering, and studies into consumers' ability to pay should form part of this strategy.

The procedure for awarding concessions for financing, designing, construction and managing of regional municipal solid waste landfills in two regions — the South-East and Polog regions — is ongoing. So far, six companies that fulfilled the tender conditions have qualified for the next phase of the procedure for the South-East region and the selection procedure for the Polog region is planned to be finalized in the second half of 2011.

Chapter 9: Agriculture and forest management

Recommendation 9.1:

The Ministry of Agriculture, Forestry and Water Economy should urgently promote rational water use and strategies to lower the demand for water in the agriculture sector rather than support increased supply. The impacts of agricultural practices on water quantities and quality should be studied and reduced with the implementation of guidelines for operating irrigation facilities and the pumping of groundwater. The construction of additional surface water reservoirs should be re-examined under the principle of sustainable and efficient use of limited resources.

Several planning documents have been developed, and projects implemented with regard to recommendations on water use in agriculture. Additional financial resources are needed, however, to achieve a reduction in water demand for irrigation, by one of two alternatives: (a) not irrigating agricultural crops; or (b) investing in infrastructure facilities and equipment upgrading for in-field application. The construction of additional surface water reservoirs should also be re-considered, as recommended.

Recommendation 9.2:

The Ministry of Agriculture, Forestry and Water Economy and other relevant bodies should ensure that irrigation systems, particularly following their rehabilitation, are protected from the leaching of chemicals and from erosion.

This recommendation has not been implemented. The legal framework to determine the various responsibilities has to be drafted and approved.

Recommendation 9.3:

The Ministry of Environment and Physical Planning, in cooperation with the Ministry of Agriculture, Forestry and Water Economy, should prepare comprehensive legislation on soil protection in order to substitute existing laws and to define respective responsibilities clearly. The law should contain provisions on protecting the soil and remediation measures for contaminated soils, compulsory measures against erosion and compaction, and provisions for the use of the best agricultural practices.

The recommendation has not yet been implemented.

Recommendation 9.4:

(a) The Ministry of Environment and Physical Planning should initiate a programme analysing and monitoring soils for heavy metal and pesticide contamination and develop a comprehensive programme for prevention and clean-up.

(b) Agricultural activities, including plant production and animal grazing, should be prohibited in areas where the soil is contaminated.

The recommendation has not yet been implemented.

Recommendation 9.5:

The Ministry of Agriculture, Forestry and Water Economy should further develop and strengthen agricultural extension services with comprehensive information programmes based on the principles of integrated and organic farming. Where farmers cannot pay, these extension services should be provided free of charge.

The recommended services are provided by the National Agency for Motivating the Development of Agriculture.

Recommendation 9.6:

The Ministry of Agriculture, Forestry and Water Economy, in collaboration with the Ministry of Environment and Physical Planning, should establish the prerequisites for marketing major agricultural products under an eco-label, and particularly those products intended for export (such as wine, tobacco and lamb).

Under the Law on Organic Agricultural Production, Nos. 146/2009 and 53/2011, each organic product is to be labelled by a national label for organic products. This label is compulsory for organic products of domestic origin and intended for the domestic market. Products that are exported, depending on the country, i.e., the final destination of the organic product, are labelled in accordance with the policies of the destination country. For EU member States, the EU organic product label is compulsory. This means that every product exported is re-labelled. The eco-label is granted by MoEPP to products that are not used in foodstuffs and do not pollute the environment.

Chapter 10: Nature and biodiversity management

Recommendation 10.1:

(a) The Government should put the “Work Organization National Parks and Hunting Areas”, as well as the Galicica, Mavrovo, and Pelister National Parks, under the responsibility of the Ministry of Environment and Physical Planning, with the existing personnel, equipment and financing.

(b) The competent authority should, as soon as possible, develop integrated management plans for the national parks, in cooperation with the Ministry of Agriculture, Forestry and Water Economy, and the Ministry of Finance, with the broad involvement of environmental NGOs and local communities. Adequate financing schemes for the implementation of the management plans should be developed and introduced.

(a) The first part of the recommendation has not been done. However, the Law on Nature Protection established the administrative structure for management of national parks. This includes establishment of public institutions, one for each national park, which are responsible for the management and protection of the parks. The Government appoints a five-member Management Board and a Director of the Public Institution for each national park. The MoEPP State Inspectorate and MoAFWE State Inspectorate (Forestry Police) ensure the enforcement of laws, regulations, and management plans within the parks.

(b) The second part of the recommendation has been partly completed and is ongoing. The Pelister National Park adopted its 10-year management plan in 2006. The Mavrovo National Park is in the process of developing its 10-year management plan, and the Galicica National Park is preparing to develop its management plan.

New financing schemes are being explored as authorized by the Law on Nature Protection.

Recommendation 10.2:

In the process of harmonizing its legislation with European Union requirements, the Ministry of Environment and Physical Planning should, as soon as possible, prepare a unified law on nature protection

The Law on Nature Protection was adopted in 2004 with amendments in 2006, 2007, and 2010.

Recommendation 10.3:

The Ministry of Agriculture, Forestry and Water Economy and other ministries responsible for the use of natural resources, should harmonize their existing or new legislation with the new unified law on nature protection as well as with nature conservation requirements set by the European Union, and should incorporate the nature conservation measures into the management plans of the natural resources for which they are responsible.

MoAFWE accomplished the recommended harmonization of legislation with the 2009 Law on Forests. It incorporates the goals, principles, and requirements of the Law on Nature Protection into the 10-year forest management plans and game management plans.

Recommendation 10.4:

The Ministry of Agriculture, Forestry and Water Economy should, as soon as possible, develop a national forestry strategy that will ensure sustainable forest management based on internationally recognized principles. The strategy should be developed with the participation of the Ministry of Environment and Physical Planning, scientific institutions, non-governmental organizations (NGOs) and other stakeholders. The strategy should also include economic instruments that would facilitate introduction of sustainable forest management practices.

MoAFWE, in cooperation with MoEPP and other stakeholders, has developed the national Strategy for Sustainable Development of Forestry (June 2006) and its Action Plan for 2007–2009. The Strategy, in concert with the National Strategy for Sustainable Development, the National Strategy for Clean Development and the Strategy on Renewable Energy, addresses economic issues, such as expanding markets for non-wood forest products and promoting ecotourism in a sustainable manner. Also, the Action Plan includes an action to study the values of the multifunctional benefits of forests so as to establish a financing mechanism for providing these benefits.

Chapter 11: Industry, energy and the environmentRecommendation 11.1:

The Ministry of Environment and Physical Planning should set up an expert working group comprising all stakeholders, including the Ministries of the Economy, Finance and Health, and senior management from the respective industries, to prioritize action, e.g., identify low-cost remediation measures and set a timetable for urgent risk reduction at the identified environmental hot spots. (See also recommendation 9.4.)

In 2000–2001, UNEP undertook an assessment to identify the most urgent environmental needs of the country. At a number of hot spots that have been identified, waste causes severe negative environmental conditions. The following five sites have been identified as the most severe hot spots: HEK Jugohrom Ferro-alloy plant in Jegunovce (now Silmak); the OHIS organic chemicals plant in Skopje; the MHK Zletovo lead and zinc smelter in Veles; the Zletovo lead and zinc mine in Probistip; and the REK Bitola lignite-fuelled thermal power plant. The UNEP study recommended an action plan for hot spots remediation.

Under the 2001 “National Solid Waste Management Plan and Feasibility Studies” CARDS programme project, 16 Industrial Contaminated Sites — hot spots — were identified and evaluated. Methods for closure/remediation were developed and (unit) cost estimates were made.

The EU-funded project managed by the European Agency for Reconstruction (CARDS 2006) “Development of Remediation Plans with Financial Requirements for Elimination of Industrial Hotspots” assisted in the elimination of industrial hot spots in the country through the development of hot-spot remediation plans for four hot spots with financial requirements.

Recommendation 11.2:

The Ministry of Environment and Physical Planning should strengthen its institutional capacity to manage the environmental impacts of chemicals, e.g., by the establishment of a special section for chemicals management.

Within the Administration for Environment of MoEPP, the Department of Industrial Pollution and Risk Management, and the Unit for Chemical and Industrial Accidents were established.

Recommendation 11.3:

The Ministry of Economy, in collaboration with the Ministry of Environment and Physical Planning, should develop legislation clearly identifying who is responsible for past pollution at industrial and energy-related sites, i.e., the new owner, the previous owner or the State. In the case of orphan sites, where the previous

owners cannot be traced or where the previous owners are bankrupt, it should be clearly stated whether the Government would assume responsibility for the associated environmental liability.

The Law on Environment contains articles concerning environmental liability.

Recommendation 11.4:

The Ministry of Economy, when carrying out studies into the continuing viability and competitiveness of industrial enterprises, should also take into consideration the need for these industries to meet European environmental standards.

In accordance with the Law on Environment, IPPC licences as well as the licences for adjustments with adjustment plans should be issued. Licences are subject of prior consultations with relevant institutions, including the Ministry of Economy.

Recommendation 11.5:

(a) The Ministry of Economy should ensure that the “energy efficiency strategy up to the year 2020” is harmonized with the “strategy for the complex development of energy up to the year 2020” to ensure consistency in the development of the overall national energy policy.

(b) As a short-term objective of this overall national energy policy, and drawing on existing experience and infrastructure, the Ministry of Economy should promote low-cost energy efficiency measures and energy management in all sectors. The promotion of energy savings and the rationalization of energy use, particularly in the industrial sector, will result in both environmental and economic benefits.

The Government adopted in 2010 the Strategy for Complex Energy Development until 2030 and the Strategy for Improving Energy Efficiency until 2020, which are complementary and harmonized with each other. According to the Law on Energy and the Strategy for Improving Energy Efficiency, programmes for strengthening energy efficiency in different sectors, including industry, will be developed.

Recommendation 11.6:

In view of the significant potential for energy savings and expected energy supply constraints, the Ministry of Economy should, in consultation with all stakeholders, establish an energy efficiency fund as a matter of priority. The fund should be an independent organization with clear and transparent management and independent supervision. The Ministry should also ensure that appropriate financial support for the energy efficiency fund is provided or facilitated.

The Energy Efficiency Fund has not been established as a separate body yet.

Recommendation 11.7:

The Ministry of Economy should ensure that a full environmental impact assessment of the pipeline proposal (AMBO) be undertaken, including the consideration of a number of alternative options for the route of the proposed pipeline project. The report of the environmental impact assessment should be presented to the Ministry of Environment and Physical Planning for review and approval.

The environmental impact assessments for some sections of the pipeline was carried out in accordance with the Law on Environment.

PART III: ECONOMIC AND SECTORAL INTEGRATION

Chapter 12: Spatial planning

Recommendation 12.1:

Parliament should adopt the national spatial plan as a priority. In cooperation with the relevant ministries and local authorities, the Ministry of Environment and Physical Planning should make a greater effort to im-

plement the national spatial plan. The development of a structured action plan with clearly assigned responsibilities, time frame and priority actions should form the basis of the implementation strategy. The action plan should include realistic and achievable objectives, taking into account fiscal and technical constraints, and define performance measures to track progress.

The 2004 Spatial Plan contains an Action Plan for implementation which sets priorities for short-, medium- and long-term implementation; however, it has not been allocated the financial resources required for its implementation. The Programme for Implementation of the Spatial Plan 2008–2010 had been developed.

Spatial Plans, under the Law on Spatial and Urban Planning, are financed from the MoEPP Budget, based on the Annual Programme for development of spatial plans adopted by the Government and published in the Official Gazette.

The national Spatial Plan is elaborated and implemented through preparation of spatial plans of regions, spatial plans for special areas of interest, spatial plans for the national parks, spatial plans for municipalities, spatial plans for certain categories of protected areas, and infrastructure corridors.

The Spatial Plans for the following areas have been adopted so far: the Ohrid and Prespa Region; the Region of Protection Zones of Rasce Springs; the Region of the Treska River Basin; and the Kozjak Region. Spatial Plans for Skopje Region and for Galicica National Park are under preparation.

Recommendation 12.2:

The Government should encourage the implementation of the national spatial plan by providing incentives for regional collaboration among municipalities on issues such as transport, economic development, air and water quality. In encouraging such cooperation, the Ministry of Environment and Physical Planning should facilitate the integration of spatial planning and environmental protection to achieve positive synergies. It should also aim at inter-ministerial collaboration to ensure the complementarity of sectoral programmes within the framework of planning and development activities.

In the framework of the spatial plans, environment and nature protection is elaborated as a priority, while sustainable development is the foundational basis for every spatial plan. The development of all documents in the segment of spatial planning is carried out through intersectoral and inter-ministerial cooperation.

Monitoring of the implementation of the Spatial Plan is regulated by the Law on Spatial and Urban Planning and the Law on the Implementation of the Spatial Plan, through the elaboration of the Annual Report on the Implementation of the Spatial Plan which is adopted by the Government.

The Annual Report is elaborated on the basis of information sheets submitted by ministries, municipalities, public enterprises, agencies and other relevant institutions at the central and local levels concerning changes in space. Another tool for the implementation of the Spatial Plan under the legal provisions are the elaborated and issued decisions on the conditions for planning of the development of urban plans in rural areas, at the request of municipalities or investors.

Recommendation 12.3:

Good planning needs to be supported through capacity-building efforts at the national level. For this purpose, the Ministry of Environment and Physical Planning should develop adequate institutional capacity. Both policy and legal planning frameworks require a considerable effort to enable the efficient operation of real estate markets.

In organizational terms, spatial planning is positioned at central level and is carried out through the Department for Spatial Planning within MoEPP. In accordance with the law, the Spatial Planning Agency has been established as a specific legal entity responsible for spatial plan development under annual programmes financed through the MoEPP budget.

Still needed is allocation of a greater budget for the annual programmes for spatial plan development and strengthening of the capacity of the Spatial Planning Department and the Spatial Planning Agency, through trainings and provision of sophisticated equipment.

Recommendation 12.4:

The Ministry of Transport and Communications in cooperation with the Ministry of Local Self-Government and the Ministry of Environment and Physical Planning should develop a strategy for the devolution of planning control and inspection functions to the municipal planning and infrastructure management units. The existing system needs to be reviewed to design appropriate institutional structures suited to the needs of the 123 local authorities.

The ministries and municipalities mentioned in the recommendation cooperate in the domain of planning of multi-annual and annual programmes for spatial plans development.

A priority programme for urban plans development is carried out through the Ministry of Transport and Communications. Strategic documents have been prepared and adopted for sustainable development, regional development, economic development, infrastructure planning, investment development and planning of technological industrial development zones.

Legislation has been adopted for spatial and urban planning, construction, regional development, infrastructure, environment; and nature protection and improvement.

Recommendation 12.5:

The Government, through the Ministry of Environment and Physical Planning, should accelerate efforts to develop a legislative framework for spatial planning that integrates and reconciles fragmented planning legislation. This should include a review of the spatial plan component of the Law on Physical and Urban Planning, to emphasize integration of physical, economic and environmental planning, and promote the use of a transparent system of zoning regulations sensitive to market demand.

Spatial planning is managed at the central level, through a Department within MoEPP; however, the establishment and organization of regional centres will allow for the management of part of these activities at the regional level.

Chapter 13: Transport and the environment

Recommendation 13.1:

The Ministry of Transport and Communications should establish an environmental unit to coordinate policy-level environmental issues [e.g., a strategic environmental assessment of the transport sector]. Following the completion of the restructuring being undertaken by the Fund for National and Regional Roads, an environmental unit should also be established in the new highway authority. The environmental units should be adequately staffed, trained, equipped and funded so that they can ensure environmental standards in all aspects of transport management.

An Environmental Unit was not established, but the Ministry of Transport and Communication, through its relevant Sectors, is coordinating policy-level environmental issues, such as environmental impact and strategic environmental assessments.

Recommendation 13.2:

The Ministry of Transport and Communication should prepare a Transport Plan subject to a strategic environmental assessment. The Ministry of Environment and Physical Planning should support the carrying out of the strategic environmental assessment. The Ministry of Finance and the Ministry of Transport and Communications should allocate funds within the transport sub-sectors (road, rail, air) taking into account the results of the strategic environmental assessment.

The Ministry of Transport and Communication, in the framework of the CARDS 2006 project “Technical Assistance to the Ministry of Transport and Communications”, developed a National Transport Strategy (NTS). The Government adopted the NTS in 2008, based on public hearings and debates, without a full strategic environmental assessment procedure, due to lack of licensed strategic environmental experts in the country.

NTS initially covered only the road sector, but the scope was expanded to also include:

1. Improvement of economic development by improvement of connectivity
2. Improvement of vehicle and user safety
3. Improvement of mobility, in particular dealing with urban transport
4. Environmental effects of the transport policy
5. Financing and investment issues, including public and private partnerships and income arrangements
6. A Monitoring and Action Plan for the implementation of the strategy
7. Transformation of the road sector.

Recommendation 13.3:

Upon completion of the general Environmental Impact Assessment procedures, the Ministry of Environment and Physical Planning should work with the Ministry of Transport and Communications to develop sector-specific environmental impact assessment (EIA) guidelines.

This recommendation has not been yet implemented.

Recommendation 13.4:

The Ministry of Environment and Physical Planning, together with the Ministry of Economy and other stakeholders, should develop a clear strategy and action plan with set targets and an implementation schedule to phase out the use of leaded petrol.

In June 2009 the Ministry of Economy in cooperation with the Ministry of Environment and Physical Planning adopted a Rulebook for Fuel Quality with clear targets and an implementation schedule for phasing out leaded petrol.

Chapter 14: Human health and the environment

Recommendation 14.1:

The Ministry of Health, in cooperation with the Ministry of Environment and Physical Planning, and other institutes with responsibility for collecting monitoring data and health statistics, should lay the foundation for the establishment of an integrated and coherent environmental health information system. For instance:

(a) The State Public Health Institute and the Ministry of Environment and Physical Planning should strengthen their collaboration in the redefinition of the country's air monitoring network with a view to optimizing available resources, avoiding duplication and making the information provided more consistent. Priority should be given to ensuring that relevant indicators (such as PM10) are monitored, and to bringing air quality standards into line with the WHO Air Quality Guidelines and the relevant European Union directives. (See also recommendations 4.2 and 7.3.)

(b) The Ministry of Health and the Ministry of Environment and Physical Planning should work together to redefine the policy framework for noise monitoring and noise standards, taking into consideration the WHO Guidelines for Noise as well as the European Union's policy on noise.

(c) The Ministry of Health, together with the Ministry for Education and Science and other relevant institutions, should establish and coordinate the implementation of a set of common methods for the monitoring and analysis of contaminants (biological and chemical) in different environmental media and foodstuffs. They should also continue professional training and inter-laboratory calibration and quality assurance schemes to ensure the accuracy and comparability of the results of monitoring and analytical procedures.

(d) The State Public Health Institute, in collaboration with the regional Institutes, should conduct specific studies on health-related issues at environmental hot spots (e.g., in Bitola and Veles) as part of the overall monitoring system.

(a) Air quality remains a problem in the major urban areas in the country. Problems due to air pollution affect approximately 60 per cent of the population, in particular, those living in the cities of Skopje, Veles, Bitola and Tetovo. Air pollution was mentioned as a major environmental issue in the first NEAP adopted in 1996. Since then, a number of legislative (EU air quality regulations) and monitoring activities have been implemented and enforced. The Institute of Public Health and 10 regional Centres of Public Health still monitor black smoke and sulphur dioxide (nine measurement sites in Skopje (seven) and Veles (two)), heavy metals (Skopje and Veles) and inert dusts in 10 cities. PM10, CO, SO₂, NO_x, O₃, are monitored at 15 measuring sites by automatic online monitoring systems managed by the Ministry of Environment and Physical Planning, according to EU regulations.

(b) The management of environmental noise is regulated by the Law on Environmental Noise Protection. The Law is harmonized with European legislation END 2002/49. The Law identifies noise exposure indicators, responsible authorities, and is responsible for preparing strategic noise maps and action plans. National limit values for prevention of noise adverse effects were established in compliance with WHO recommendations. The National Network for Environmental Monitoring has been developed under the auspices of MoEPP and MoH. In accordance with the National Annual Preventive Programme, noise monitoring has been carried out by the State Public Health Institute and the Centres for Public Health of Skopje, Bitola and Kumanovo.

(c) This part of the recommendation has been partly implemented. The Public Health Institute is the body implementing this recommendation.

(d) This part of the recommendations has not been implemented yet.

Recommendation 14.2:

The Ministry of Health, in collaboration with the other ministries involved in water management and control, should enforce sanitary protection zones around springs used for drinking water supply.

The recommendation has been partly implemented. Since the EPR was carried out, no reduction in five-day biological oxygen demand (BOD₅) and in concentrations of ammonium in rivers has been observed in the country. At some monitoring stations, located on the rivers Crna Reka and Vardar, eutrophic water status with high BOD value was recorded. These results could reflect the status of inefficient treatment of urban and industrial wastewaters in the country, as well as the inadequate protection of river basins.

Problems associated with bathing water quality protection in the lakes are closely related to the implementation of one of the highest priorities in the country's environment protection — construction of adequate wastewater treatment facilities. The quality of surface waters used for sports and recreation purposes and for tourism on the shores of the lakes is unsatisfactory, the sole exception being Ohrid Lake. There is evidence of water pollution with microbiological substances and organic substances.

The most seriously polluted waterways are reportedly the central and lower sections of the Vardar, Peinja, Bregalnica and Crna Rivers. The most serious water pollution concerns are the discharge of untreated wastewater from mining and industry, as well as wastewater from urban centres and livestock breeding farms. Reportedly, only 6 per cent of wastewaters in the country are treated prior to their discharge in rivers.

Recommendation 14.3:

The Government should expedite implementation of the new Food Law, including the establishment of a Food Agency under the Ministry of Health.

The new Law for Food Safety was endorsed by Parliament in 2010. In January 2011, the Food and Veterinary Agency was established as an independent Governmental body. However, the various roles and responsibilities have to be clarified. Cooperation with institutions that provided food control will be necessary. Food safety is tested in authorized and accredited laboratories in collaboration with the national authority responsible for food safety and food operators, i.e., the National Food and Veterinary Agency. Assessment of food safety is performed according to national legislation. The country is currently harmonizing its regulations in the area of food and consumer safety with the European legislation.

Recommendation 14.4:

The Government should designate a suitable site for the safe storage of radioactive waste.

According to the Laws for protection of ionizing radiation and radiation safety (No. 48/02 and No. 135/07) the management, handling and treatment of radioactive waste are under the responsibility of the Regulatory Safety Directorate, which operates in accordance with the International Atomic Energy Agency (IAEA) guidelines and regulations. Subsequent negotiations have been ongoing at the Governmental level to identify safe storage for radioactive waste, although no satisfactory solution has been found. The main reason is the opposition by residents of potential locations, which have thwarted Government efforts to comply with the requirement. The struggle to find a depot site has continued for five years.

Recommendation 14.5:

The Government should encourage and establish mechanisms for closer collaboration and the integration of common concerns between the Ministry of Environment and Physical Planning and the Ministry of Health. This should include, among other activities, the following:

- *Integration of environmental health concerns into the permitting system by involving representatives of the health sector in assessment and decision-making for new projects.*
- *Redefinition of the responsibilities of the respective Inspectorates in the two Ministries.*
- *Inclusion of representatives of the Ministry of Health in working groups established to approximate the country's legislation to that of the European Union.*
- *Establishment of common programmes for coordinated fund-raising from external sources.*
- *Implementation of the programme for Health, Environment and Safety Management in Enterprises (HESME).*

Mechanisms for collaboration between the Ministry of Environment and Physical Planning and the Ministry of Health exist, but not to a satisfactory level. National Committees and working groups for development of policies and strategies usually consist of representatives of both Ministries. However, there is a lack of coordination between the two Ministries in terms of implementation of joint activities on a daily basis and clarification of responsibilities, as well as the establishment of common programmes. Both Ministries often coordinate isolated projects with limited collaboration, which has an influence on the sustainability of the implemented activities.