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## **REPORT\***

### **RATIONAL MANAGEMENT OF NATURAL RESOURCES IN THE BLACK SEA REGION: ENHANCEMENT OF LEGISLATIVE FRAMEWORK**

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## I. INTRODUCTION

Human activities, ever expanding economic development, world population pressures and growing dangers of global air and water pollution are having an increasing impact on the integrity of ecosystems. As the number of people on earth mounts, the pressure applied by humans to the environment gets harder and in this respect it is very topical to manage natural resources more rationally. It is widely advocated that natural resources are to be preserved, developed and managed in a rational and sustainable manner through strengthened regional, national and local capacities.

Taking into account growing topicality of the issue of natural resources management, the Legal and Political Affairs Committee at its Thirty Third Meeting in Manisa on 29 April 2009 took decision to discuss “Rational Management of Natural Resources in the Black Sea Region: Enhancement of Legislative Framework” at its Thirty Fourth Meeting of the Committee in Kyiv on 13-14 October 2009 with a view to elaborate the Report and the Recommendation for further submission to the consideration of the Thirty Fourth Plenary Session of the General Assembly in Moscow in November 2009.

The report takes broader look at the issue of natural resources management and reviews relevant national and international legislative framework with a view to assessing the potential for common approach. It also traces the challenges in the light of new vision of global response to the problems encountered in natural resources management and focuses on the importance of national and dynamic regional and international cooperation.

The present report has benefited from the contribution by the national delegations of Russia and Turkey. The necessary additional reference material has been obtained by the PABSEC International Secretariat through the related internet resources and publications.

## II. RATIONAL MANAGEMENT OF NATURAL RESOURCES IN THE BLACK SEA REGION: ENHANCEMENT OF LEGISLATIVE FRAMEWORK

1. People have always lived in an environment, which provided everything for their survival. In the past there were less people living on earth with lesser needs in natural resources, but now with growing population, increased needs and powerful modern technologies natural resources are being used on unbelievably large scales. Unfortunately, many of the natural resources are not going to last forever and wise use of natural resources becomes topical today. Rational management of natural resources for the future as well as the present is a priority and a common goal.
2. In an ecological sense, anything that is not produced by humans and that is useful within the human life is a natural resource. It means that natural resources are objects, creatures and materials that can be moved, shaped, built upon, built with, or manipulated and harnessed by human ingenuity. In earlier times, when human activities did not allow changing the face of the earth dramatically, people believed that natural resources were endless, boundless and inexhaustible. Today, when technological advancement allowed people to use natural resources in diversely new ways, the capacity of humans overcame the capabilities of nature to provide enough resources.
3. Everything in environment could be considered a natural resource. Natural resources may take many forms and they are limited. Natural resources that can

last forever regardless of human activities are relatively non-exhaustible. They renew themselves but can be damaged by human misuse. Water and air are such resources but they can be damaged by pollution. Natural resources that reproduce themselves or that can be reproduced by human efforts are considered renewable. If managed well, it is possible to use such resources and yet have as much left afterward as before the use. Wise and rational management of such resources leads to their efficient renewal. Exhaustible or non-renewable natural resources exist in limited quantities and cannot be replaced or reproduced, neither do they renew themselves. Such resources can only be conserved, used less, some of them may be recycled, but once these resources are gone, they are gone forever. One of the very important exhaustible resources today is oil and gas. Humankind has to manage these resources rationally to make them last as long as possible.

4. The BSEC region is rich in natural resources and is well known for the diversity of ecosystems, habitats and biological diversity due to its highly varied climatic, geologic, topographic and hydrologic conditions. There are marine ecosystems, coastal zones, lakes, rivers forests, alpine pastures, meadows and high mountain ecosystems. For all the countries in the region soil is important natural resource from which human gets food and natural fibers and which is a place where a human lives and works. Urban expansion, industrialization, highway constructions bring about a problem of efficient land-use planning and each nation establishes priorities for land use and soil resources. The BSEC region has abundant water resources as well. Water is needed in greater quantities today and with effective water management water resource problems can be solved.
5. Although the region is rich in many natural resources in general, the distribution of resources is not equal among the states. Ukraine, for example, has rich reserves of iron ore, bituminous and anthracite coals, and manganese-bearing ores. Russia is very rich in vast variety of natural reserves. Its deposits of natural gas, coal and oil are among largest in the world. Almost every mineral, rare and precious metals, timber, diamonds comprise Russia's enormous wealth of natural resources. In Romania there are significant deposits of petroleum, natural gas, salt, coal, lignite, iron ore, copper, bauxite, manganese, lead, and zinc. Deposit of mineral resources in Armenia, Georgia, Greece and Moldova are relatively small.
6. As distribution of natural resources differ in different countries, so does the natural resources management issues. In the BSEC states the policy directions taken by the governments in this sphere are also different. The individual countries face different principal challenges in natural resources management. For example, for Moldova, Romania, Russia and Ukraine management of black soil belt is a key issue. Erosion management on agricultural land is a challenge for many countries, so is improvement of water quality management in the rivers and their balanced use. Sound forest management, balancing control measures with ecosystems management, coastal zone and mountain ecosystem management, sustainable resource use are important issues throughout the region.

#### ***Policies, frameworks, cooperation***

7. The environmental legislation in general corresponds with problems and needs raised by the practice and are in accordance with the rhythm of development of individual states. Legislative frameworks are complemented by institutional reforms and constitute important step towards sustainable development. Adequate

legislation, well defined competences of respective authorities, shared responsibility, viable institutional framework of interrelated governmental and nongovernmental organizations have important role in efficient and rational management of natural resources.

8. The environmental legislation in *Albania* is in harmony with legislation in other related fields. Along with the basic Law on Environmental Protection a number of specific laws have been approved widening the national framework of the environmental legislation. The main characteristics of the environmental legal framework are principles of sustainable development and relevant actions for a better law implementation and enforcement. Meeting requirements arisen from international conventions and agreements the law contains basic provisions concerning environmental impact assessment. The Ministry of Environment undertook the Environmental Action Plan, the Environmental Chapter of the strategy on growth and poverty reduction. A number of related laws have been enacted on soil protection and on biodiversity conservation. The National Environmental Action Plan includes a programme for short, medium and long term actions as well as a series of priority projects related to urban waste, deforestation and other important issues. Law on Environmental Protection, Law on the Protection of Fauna, Law on Fisheries, Law on Water Resources are basic laws in management of natural resources in Albania.
9. *Armenia* developed comprehensive state policy towards ecological protection and sustainable use of natural resources. This has resulted in a series of laws, including regulations relating to protected areas, land and forest codes, protection of flora and fauna and biodiversity conservation. These laws imply protection and rational management of relevant resources taking to account their ecological, social and economic significance. Key laws and regulations relating to natural resource management are: Law on Principles of Environmental Protection; Law on Especially Protected Areas; The Land Statute; The Water Statute; Law on Protection of the Atmosphere and Air Quality; The Forest Statute; Law on Environmental Impact Assessment; Government decree on Fishing activities in Lake Sevan; Law on Payments for Nature Protection and Use of Natural Resources; Law on Flora and Law on Fauna. The government is responsible for overseeing the protection and management of natural resources through relevant local authorities and special state agency under the Ministry of Nature Protection. The Law on Specially Protected Areas outlines the procedures for establishing protected areas and guides their management with the aim to maintain balance of natural ecosystems, to preserve natural monuments of national importance, to control use of natural habitats, to promote environmental education and public awareness. The Ministry of Nature Protection is responsible for ecological survey and inventory, monitoring and management, development of guidelines for sustainable use, and for reviewing the implementation of legislation relating to the environment. The Ministry of Agriculture is responsible for management of state agricultural lands and oversees management of agro-biodiversity.
10. *Azerbaijan* has developed its National Action Plan on the Protection of Environment. The legislation in the sphere of natural resources management is wide-ranging. The government takes necessary measures on the protection and rational use of the land, water resources, vegetation and fauna. Law on Environment and Natural Resources, Law on Environmental Protection, the Law on Fauna, Law on Fisheries, Land Code, Water Code, Forestry Code, Law on

Environmental Impact Assessment are among the most important legislative acts. There are also legal regulations in the fields of fishery and agriculture. As the majority of the laws are of a framework character, they require further development in the normative acts determining exact measures, responsible departments, procedures, terms, the budgets, etc. Government agencies and organisations responsible for the management, protection and sustainable use of natural resources have different roles and responsibilities. State Committee on Ecology and Nature is the central executive body of the country in the field of environmental protection and resources management. The National Programme develops strategy, policy and action plans on resources management. The basic purpose of the National Programme is to collect information, research, documentation and rational use of resources as well as protection and conservation.

11. The Ministry of Environment and Waters and other relevant ministries conduct overall environment policy in *Bulgaria*. This includes developing the strategy of the government for environmental protection; coordinating the environmental control functions of ministries and agencies; and for the rational use of renewable and non-renewable resources. The local municipal authorities create their own environment protection programmes in agreement with the authorities of the Ministry of Environment and Waters and, if necessary, with the Ministry of Healthcare and the Ministry of Agriculture and Forests and with other competent government authorities, inform the population about the state of the environment and about activities and actions implemented and subject to environmental impact assessment. The protection of air is legally defined in the Clean Air Act and is harmonized with the EU legislation. The planning of land resources and human settlements are the core issues of the National Strategy for Territorial Development. The Land Protection Act provides the framework for the sustainable and rational use of land resources. National Strategy for Biological Diversity includes: Strengthening the Scientific Basis for Conservation; Legislative Initiatives; Expanding and Strengthening the Protected Areas Network; Environmental Education and Cooperative Extension; Developing and Implementing an Ecotourism Policy; Stimulating Conservation in the Black Sea Basin; and Protected areas law. Various activities for improving the management and conservation of biological diversity in protected areas have been developed by the Ministry of Environment and Water in the framework of international programmes and projects.
12. Management of the natural resources in *Georgia* is regulated by a relevant legal framework consisting of laws, decrees, by-laws and other normative acts. The law on Environment Protection establishes general framework for environment protection and use of natural resources and regulates legal relations between state institutions and physical and legal entities in this sphere. The other laws are: Law on Environment Protection; Law on Water; Law on Mineral Resources; Law on Land Reclamation; Law on Licenses and Permits; Law on Permit for Impact on Environment; Law on Public Health; Law on Management and Protection of the Sea Coast and River Banks. The Law on Water sets up the legal basis for water resources protection and management in Georgia and defines the main principles of water policy: protection of water bodies and rational use of water taking into account interest of present and future generations as well as the principles of sustainable development; sustainability and sustainable use of water inhabitants; prevention of harmful impacts on water resources. The Law on Mineral Resources defines the principles of use, regulation and protection of mineral resources,

including groundwater. The Law on Licenses and Permits sets a permit for impact on the environment and licenses for use of underground space and extraction of minerals, use of underground water and fishing. The Law on Permit for Impact on the Environment defines the full list of developments requiring the permit for impact on the environment. The Law on Management and Protection of the Sea Coast and River Banks provides for state supervision on construction activities along the seaside and use of relief forming minerals as well as development of territorial resources.

13. **Greece** is relatively poor in natural resources of high economic value. Forests, abundant in ancient times, have to a great extent been depleted. Subsequent soil erosion has made reforestation difficult. The General Secretariat of Forests and Natural Environment within the Ministry of Agriculture, is responsible for all forestry issues. The Central Forest Service is responsible for planning, coordination, and assurance of appropriate financial resources. The regional services are in charge of forest management, protection, improvement, engineering works, and production. Greece has little black coal, and its lignite is of poor quality. On the other hand, the country does have significant petroleum and natural gas deposits, located under the Aegean Sea. The deposits of bauxite and iron ore are rich in metal content, but the reserves of other commercially important minerals, such as chromium, nickel, copper, uranium, and magnesium, are relatively small. Although the waters surrounding the country are inhabited by a large variety of fish, only a few species are plentiful. Rapid industrialization in Greece has resulted in heavy pollution. The Ministry for the Environment, Physical Planning and Public Works is mainly responsible for making decisions for the protection of the atmosphere. Co-responsible bodies include Ministries of: Development (Energy, Industry), Transport and Health. Within the Ministry for the Environment, Physical Planning and Public Works, the Directorates of: Regional Planning and the Environmental Planning are responsible for the planning and management of land resources.
14. **Moldova** is predominantly an agricultural country with its black soil constituting 75% of the land. However, the integrity of the soil has been compromised after years of intensive. Disregard for crop rotation and a high degree of agricultural specialization and concentration resulted in the application of large amounts of fertilizers and pesticides and in soil degradation. Within the Ministry of Agriculture and Food the Department for Land Resources is responsible for the planning and management of land resources. A legal basis is constituted by the Land Code, the Law on Land Monitoring and Cadastre and the Law on Land Taxes. The effects of erosion cause additional problems. It is estimated that about 80% of the country's territory is affected by erosion and that the country loses bulks of its most fertile top soil annually. Under the National Program for Strategic Action in the Environment, the Government introduced environmentally-conscious schemes for natural resources utilization, particularly the use of forests and land. Air pollution is another issue on the agenda. The main activities for air pollution prevention are included in the Law on Environmental Protection; the Law on Air Protection; the Law on Ecological Expertise and Environmental Impact Assessment; and the Law on Hydrometeorological Activity. The management of protected areas is carried out by the Association Moldsilva and by local governments. The Law on the Foundation of Protected Areas was elaborated and submitted to the Government in 1996. Within the Ministry of Environment and Territorial Development, State Ecological Inspectorate has been established to

examine violations of ecological legislation, control the ecological consequences of economic activities. Several state associations have been established to control environmental protection and to monitor the use of resources.

15. The principal mineral resource in **Romania** is petroleum. The western part of the Transylvanian Alps has deposits of bituminous coal and iron ore, and the country also has scattered lignite deposits. Forests in Romania cover approximately 27% of the total land area and are state property. The European *acquis* comprises over 200 legal acts covering, water and air pollution, management of waste and chemicals, biotechnology, nature protection, industrial pollution and risk management, noise and radiation protection. For the application of the environment *acquis* is imperative a strong and well equipped administration at national, regional and local levels. The measures for environment protection include: the applying of the legislation of European Union (including the access to information and rating the impact on environment); global and trans-border pollution decreasing; the legislation for nature protection (which aims the biodiversity preservation); measures that ensure the function of domestic market (for example the product standards). The European Union's Directives have been integrated into Romanian legislation. The putting into operation and observe the *acquis* in the field of environment protection require a strong and well equipped administration, because it is necessary to consolidate the consultancy role of the Ministry and the National Environmental Agency toward the local and regional agencies. As concerns flora and wildlife preservation, as well as natural habitats, a series of normative acts were made in order to develop the national legislative framework in the field and to tone it with the community one.
16. The legislative framework regulating use of natural resources in **Russia** comprises of multiple government decrees, codes and regulations including Land Code, Town Planning Code, Water Code, Forest Code, Federal Law on Environmental Protection Federal, Law on Environmental Review, Federal Law on Specially Protected Natural Areas, Federal Law on the Subsoil, Federal Law on Fauna, Federal Law on Atmospheric Air Protection, Federal Law on Land Reclamation, Federal Law on Industrial Safety in Hazardous Production Facilities, Federal Law on the Protection of the Population and Territories from Environmental and Technological Emergencies, Federal Law on the Radiological Safety of the Population, Federal Law on Safety of Hydro-technical Constructions, Government Decree on Approval of the Regulations of the Procedure of Land-Use Boundary Fixation within the City and Other Settlements, Russian Federation Government Decree on the Procedure of State Inventorying of Protected Nature Areas, Russian Federation Government Decree on the Procedure of State Recording, Inventorying, and Monitoring of Fauna, Russian Federation Government Decree on State Water Inventory, Russian Federation Government Decree on State Monitoring of Bodies of Water, Russian Federation Government Decree on Regulations on State Control over Management and Conservation of Bodies of Water, Russian Federation Government Decree on Regulations for Water Conservation Zones of Water Basins and Adjacent Protective Zones, Russian Federation Government Decree on Water Reservoir Operations Russian Federation Government Decree on Regulation on Classification of Natural and Technological Emergencies and Disasters, Russian Federation Government Decree on Red Book (Endangered Species List) of the Russian Federation, Russian Federation Government Decree on Regulation for Federal Service for Supervision Over Natural Resource Use, Russian Federation

Government Decree on the Federal Environmental, Industrial and Nuclear Supervision Service.

17. Legislative framework on management of natural resources in *Serbia* comprises of the Law on Environmental Protection; The Law on Environmental Impact Assessment; The Law on Strategic Environmental Assessment; The Forest Policy Act; The Strategy on Sustainable Development; The National Environmental Action Plan; The Strategy of Sustainable Use of Natural Resources and Goods; National Forestry Program; Strategy of Biodiversity Conservation and Action Plans; The Law on Nature Protection; The Law on hunting. There are also multiple projects realized in this sphere: “The Development of EMERALD Network in the Republic of Serbia”; Important Plant Areas in Serbia; Important Bird Areas in Serbia; Inventory of Wetlands in Republic of Serbia; Harmonization of national nomenclature for classifying of habitats with International community standards; Action plan for wetland preservation of international importance; Action plans for the preservation of the certain species in Serbia. Programmes for improvement of the National Biodiversity Strategy and Action Plans, as well as on National strategy for sustainable use of natural resources; Establishment of traditional forestry and agricultural practices for nature conservation; Development of forestry and agro-environment schemes; Capacity building of institutions and organizations for development and management; Establishment or Improvement of monitoring and hunting management; Improving communication between international, national and local authorities.
  
18. *Turkey*, situated at the crossroads of the three of the environmentally most sensitive basins – the Black Sea, the Mediterranean and the Caspian – pays special attention to the environmental issues and efficient management of natural resources. The geological structure, topography, climate, wildlife, and plant cover are very much diverse. Turkey is well-endowed with mineral resources, such as coal, iron, copper, chrome, magnesite, boron, and salt, and modest amounts of oil and natural gas. The country also exploits deposits of other minerals such as lead, zinc, antimony, asbestos, pyrites, sulfur, mercury, and manganese. Turkey’s unique location translates into rich biodiversity. It is rich in exceptional species of flora and fauna. Turkey’s environmental legislation includes the Environment Act and other laws that affect the environment: the Water Act, Water Products Act, Municipalities Act, General Hygiene Act, Tourism Incentives Act, Protection of Cultural and Natural Assets Act, National Parks Act, Forest Villages Development Act, Bosphorus Act, Metropolitan Municipalities Act, Agricultural Reform Act, Game Act, Urban Development/Construction Act, Mining Act, Coastal Act, Reforestation and Erosion Control Act, and Forest Act. The main governmental bodies in the sphere are the Ministry of Forestry and Environment and the Ministry of Energy and Natural Resources. The General Directorate for National Parks Game and Wildlife within the Ministry of Forestry and Environment is responsible for establishing and managing the majority of Turkey’s various categories of protected areas and is responsible for regulation of environmental management across all sectors. National Environmental Action Plan and National Biodiversity Conservation Strategy and Action Plan aim protection and rational use of existing natural resources. A number of national NGOs are actively involved in promoting public awareness of the need for environmental protection, conservation and sustainable rural development.

19. Management of natural resources in *Ukraine* is regulated by a relevant legal framework consisting of laws, decrees, by-laws and other normative acts. The Law on Environmental Protection determines legal, economic and social framework for the environmental protection. The Law on Ecological Expertise regulates public relationships in the area of ecological expertise for the provision of ecological safety, environmental protection, rational use and reproduction of natural resources, protection of ecological rights and interests of citizens and the state. The Water Code of Ukraine forms provision for more effective use of water and protection from the pollution and exhaustion. The Land Code of Ukraine regulates land relationships in Ukraine. The State Programme on the Protection and Recreation of the Azov and Black Sea Environment envisages protection and rehabilitation of the environment of Azov and Black Sea. The Government adopted the National Programme of Development of Land Use. Agricultural land occupies 70% of the total national area. Soil erosion remains a problem with 34% of the agricultural land. Large investments are required for land reclamation; this represents a problem given the lack of resources. The Ministry of Environmental Protection and Nuclear Safety is responsible for the conservation of biological diversity. Nature reserves in Ukraine protect about 80% of the species of natural flora, but the existing network is still insufficient to protect all the genetic values of plant and animal wildlife, and the diversity of ecosystems. After adoption of the Law on Energy Saving the State Committee on Energy Saving was created and the State Programme of Energy Saving has been approved by government. The Ministries of Environmental Protection and Nuclear Safety, Forestry, and Agriculture are in charge of forest resource use and protection in Ukraine. The Government has developed a Programme of Development of Forests and Forest Industry Complexes to the year 2015 to improve forest resources management and protection. Forestry Code was established in 1994. Forests have global significance but are, unfortunately, endangered by timber-cutting, soil erosion, destruction of natural vegetation, overgrazing, chemical contamination and acid rain. The main approaches to the improvement of the ecological condition include a complex of measures of conservation and afforestation. Water Code of Ukraine was approved in 1995. In Ukraine, the State Committee of City Building and Architecture, the Ministry of Agriculture, the State Committee of Land Resources, and the Ministry of Environmental Protection and Nuclear Safety supervise the planning and management of land resources. The Government has developed Programme of Development of Land Use, the State and Regional Programmes of Land Protection from Water and Wind Erosion, and the State Programme of Natural Environment Protection and Rational Use of Natural Resources. Ukraine has the richest and most fertile land in Europe. Of the 60.36 million ha of total land resources, 69.4% is agricultural land, 14.3% is forest land, and 2.4% is under housing. Anthropogenic and technological environmental impacts have been steadily growing and have reached critical limits in specific areas, leading to soil degradation.
20. The Black Sea region has abundance of problems regarding their management. In the countries of the BSEC region, as elsewhere in the world, rapid economic growth has accelerated the pace of urbanization and broader consumption of natural resources. Major environmental problems today concerning the BSEC states are urban environment (air quality, water supply and wastewater, and solid waste management), natural resource management (water resources, soils and land, forests, biodiversity), marine and coastal resources, cultural and natural heritage, and natural as well as man-made environmental hazards.

21. Rational management of natural resources is even more important when the resources are shared by two or more countries. Cooperation among different sides of the border becomes an additional factor of key importance in setting priorities in concrete resource management and taking steps towards identifying concrete measures.
22. The states in the BSEC region carry out international cooperation on a bilateral and multilateral basis, at regional and global levels, cooperating with other countries, international organisations, participating in international programmes and projects. The cooperation is enhancing also with international non-governmental organisations acting on various aspects of natural resources management.
23. Many of the BSEC states have ratified a number of relevant multilateral agreements and conventions, among them: Convention on Environmental Impact Assessment; Convention Concerning the Protection of the World Cultural and Natural Heritage; The Convention on Biological Diversity; The Ramsar Convention on Wetlands; Convention on International Trade in Endangered Species of Wild Fauna and Flora; European Wildlife and Natural Habitats; Convention on Migratory Species; European Landscape Convention; United Nations Framework Convention on Climate Change; Vienna Convention on the Protection of the Ozone Layer; Convention on the Protection of the Black Sea Against Pollution; Convention on the Protection and Use of Transboundary Watercourses and International Lakes; The Danube River Protection Convention; International Convention on Oil Pollution Preparedness, Response and Cooperation; Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; Convention on Long-range Transboundary Air Pollution; Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade; Stockholm Convention on Persistent Organic Pollutants; Convention to Combat Desertification.
24. There is also effective cooperation between and among the BSEC member states in the sphere of remedying environmental problems and rational management of natural resources. These inter-governmental and inter-ministerial treaties include: Convention between the Government of Romania and the Government of the Republic of Bulgaria on collaboration in the field of environment; Agreement between the Government of Romania and the Government of the Republic of Turkey on cooperation in the field of environmental protection; Agreement between the Government of Romania and the Government of Ukraine in the field of border water management; Agreement between the Ministry of Water, Forest and Environmental Protection of Romania, the Ministry of Environment and Territory of the Republic of Moldova and the Ministry of Environment and Natural Resources on cooperation in the protected areas of the Danube Delta; Agreement between the Ministry of Environment and Water Management of Romania and the Ministry of Environment and Water of the Republic of Bulgaria on cooperation in the field of water management; Agreement between Romania and Republic of Serbia on hydro-technical problems on the hydro-technical systems and water courses on the border; Agreement between the Government of the Russian Federation and the Government of the Republic of Bulgaria on cooperation in environmental protection; Agreement between the Ministry of Natural Resources of the Russian Federation and the Ministry of Protection of Nature of the Republic of Armenia on cooperation in using mineral resources and water resources;

Agreement between the Government of the Russian Federation and the Government of Ukraine on cooperation in environmental protection; Agreement between the Government of the Russian Federation and the Government of Ukraine on implementation of the Convention on joint usage and protection of trans-border waters.

25. Given the fact that three BSEC states are the members of the European Union and taken into account the increased interaction with the European Union through the Black Sea Synergy and the Eastern Neighbourhood frameworks and mechanisms designed for individual states, it is utmost important to attribute due regard to the developments in natural resources management sphere in the EU. The EU has been putting increasing emphasis on this topic of sustainable use of natural resources, especially since the adoption in 2001 of the EU sustainable development strategy and the sixth environment action programme (6EAP) for 2001-2010. Objectives and priority areas for action on the sustainable use and management of natural resources and wastes are: ensuring that the consumption of resources and their associated impacts do not exceed the carrying capacity of the environment and moderating linkages between economic growth and resource use; achieving a significant overall reduction in the volumes of waste generated through waste prevention initiatives, better resource efficiency and a shift towards more sustainable production and consumption patterns; significant reduction in the quantity of waste going to disposal and the volumes of hazardous waste and reduction of emissions to air, water and soil; encouraging re-use and for wastes that are still generated: the level of their hazardousness should be reduced.

#### ***Towards rational management of natural resources***

26. Rational management of natural resources aims at achieving a balance between different uses of natural resources along with protection and conservation of resources quality and quantity for the future. As the main driving forces of resources consumption are population, economic growth and international trade, there are many uncertainties in assessing potential and the regeneration dynamics of natural resources.
27. Countries possess different natural resources and these differences are the basis of global trade in commodities and the generation of income. Many resources are transported to other parts of the world where they are consumed or used as an input for the production of goods. Therefore, natural resources management acquires a broader impact.
28. Efficient natural resources management requires integrated and sustainable approach. It needs application of effective policies at global, national and local levels.
29. Scientists point to three different perspectives of natural resources management: that of preservationist, exploiter and conservationist. According to preservationists, nature should be left intact as much as possible and managing nature is a foreign concept because nature is something to be left alone and not managed. In the viewpoint of the exploiter, natural resources are source of wealth and power and they are there for consumption. From this perspective, nature is something to be reshaped for economic benefit regardless of needs of ecosystems. The conservationist viewpoint is somewhere between those two implying that nature

provides resources that should be used carefully for economic benefit without damaging much the ecosystem.

30. Rational resources management implies sustainable resource extraction, production and consumption, and management of wastes and emissions. Existing policy responses at national and international levels include regulatory framework, economic instruments and various strategies, already targeting these points. Therefore, it is necessary to develop and fill in the gaps that exist in the system of legal regulation.
31. Most BSEC member states have developed national strategies for sustainable development including many policies that have effect upon resource use and their environmental implication. In economic, agricultural, fisheries, energy, transport and other policies objectives are extending towards taking coherent measures for management and exploitation of natural resources and their safe supply. At the same time, one of the most important prerequisites for resolving of the environmental problems is the successful use of economic tools in the environment protection policy.
32. The concept of multiple use of a natural resource becomes very topical. It urges humans to plan integrated natural resource management activities. Forest, for example, can be used for recreation as well as for the production. A lake can be used as a water reservoir, for fishing and as a flood-control measure. The concept of multiple use is very productive and allows to combine resources management and recreation all at the same time.
33. The management of resources poses numerous challenges to decision makers. Therefore, an appropriate institutional framework, a clear policy and strategic and effective implementation of plans are required to alleviate some of the current difficulties.
34. The decisions on natural resources management should take into account an understanding of history, ecology, economics and social values. They must also take into account world, national, state and local politics in order to provide for the long term benefit of humanity. However, selecting best management practice from among alternative solutions is a complex process requiring among others public participation.
35. Rational and sustainable resource management also implied adequate institutional reform and strengthening. A network of institutions, agencies and units dealing with environmental protection and management both at central and local level are to be strengthened. Yet, still there are problems and issues to be solved or addressed appropriately in order to increase the efficiency of the institutional base. Appropriate measures are imperative to strengthen and enable monitoring structures to perform their functions adequately. These structures should be created and adequately staffed, while any existing services at the municipal and district level should be strengthened. An efficient coordination system between central and local level activities should be established.
36. The strengthening of the entities dealing with the environment, along with the legislation improvement, should result in an effective control of the rational use of natural resources and levels of pollution in general terms. The rational management of natural resources, including forests, national parks and other protected areas,

should also be remarkably improved. Moreover, this system, once established, should produce increased benefits not only for the environment conditions as such, but also for all other vital sectors of the economy.

### III. CONCLUDING REMARKS

37. The Earth's natural resources are vital to the survival and development of the human population. Human wealth is based on the use and consumption of natural resources. A wide range of activities of the world's population - extraction of resources, industrial production, consumption of goods and services, mobility, leisure - results in massive flows of materials. Resources are extracted, transformed into products and goods, transported to other parts of the world and are released back to the natural environment as waste or emissions.
38. The Earth is a closed ecosystem and this sets limits to use of natural resources. Resources need protection maintenance and enhancement. Some of the resources, such as minerals and habitats are finite which means that once they have been exhausted or destroyed, they are gone forever. For some non-renewable resources, including many metals and construction materials, security of supply does not currently give cause for concern; for others, such as fossil fuels and land, availability is already becoming a problem which is almost certain to grow. Others, such as air, water, and wood, are renewable. For many renewable resources, the key challenge is to ensure their sustainable regeneration by safeguarding the reproductive capacities of ecosystems, although humans generally rely on the natural system to re-grow, renew and purify its resources. Other limits result from the finite ability of the environment to absorb discharges and emissions of pollutants and wastes without serious damage.
39. Continued increase in resource use and the related environmental impacts can have a multitude of negative effects leading to ecological crises and security threats. The rational use and management of natural resources have therefore come into focus and has been the subject of many policy discussions over more than a decade.
40. Although many effects of overexploitation are felt locally, the growing interdependence of nations and international trade in natural resources make their management a global issue. For example, human-induced carbon dioxide emissions are already causing climate change and the ozone layer continues to be damaged by emissions. The contamination of groundwater and soils by large quantities of wastewater is another example of how human activities can affect the environment.
41. As countries become richer and more developed, as technology stretches and magnifies natural resources potential, people have to closely guard the quality of ecosystem as all living things depend upon their use of natural resources. Poor natural resource management may have irreversible impacts, as when species or ecosystems are totally lost. Poor farming practices can increase pollution of water and soil pollution and erosion. Deforestation can lead to increased risk of flooding. Excessive water withdrawals for irrigation can lead to drying up lakes.
42. Rational management of natural resources is a key factor for meeting the present and future needs and benefits of peoples with due regard to raising quality of human life along with sustainable development of environmental ingredients that make up that quality.