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## **REPORT\***

### **“Water resources management in the Black Sea region”**

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## I. INTRODUCTION

1. Taking into view the rapid developments in the world over last decades the management and use of water resources becomes a very topical issue in the context of both environmental protection and of its strategic importance. The Black Sea region being the main socio-economic hub of the Eurasian continent faces the severe environmental challenges that particularly affect the water resources of the region. It is a well-known fact that the ecosystem of the Black Sea region suffers from very acute problems being a subject to pressure from irrigation, industry, fishing, tourism, power generation, navigation and not the least as due to the aggregation of urban wastewaters.
2. On its part, the PABSEC from the beginning advocated the environmental sustainability as a significant factor of the economic development of the countries of the region, regarding the issue of the water resources as well. In 1994 Assembly adopted Recommendation 5/94 on “Black Sea Environmental Health”. The Assembly addressing the environmental problems of region, as the parliamentary dimension gives particular emphasis to setting up an enabling legal framework and harmonizing environmental standards. This aspect is reflected in Recommendation 49/2001 “Black Sea Environmental Protection: New Challenges” that also addresses the administrative and financial barriers to environmental protection with implementation of existing environmental regulations and projects through locally, nationally and regionally coordinated actions.
3. Recommendation 81/2005 on “Economic Aspects of Resolving Environmental Problems in the BSEC Member States” mentions that efficient and effective cooperation aimed at preservation and protection of the regional environment, within the framework of the concept of sustainable development, and maintenance of normal ecological conditions is a duty of every BSEC member state.
4. Besides, the PABSEC in Recommendation 99/2007 on “Global Climate Change: Consequences for the BSEC Member States” stresses its commitment to contribute to further the dialogue to address climate change under the existing international instruments and to work with all members of the international community for an enduring global solution to climate change with due regard to specific national and regional development priorities, objectives and circumstances.
5. At its first round table in Istanbul, on 6-8 September 1994, under the auspices of the Association of the Black Sea capitals (established upon the PABSEC initiative) the heads of the city administrations of the BSEC capitals adopted a declaration, in which one of the priorities for cooperation was given to improving urban environmental situation.
6. In 1996, an Inter-Parliamentary Conference on the Black Sea Environmental Protection was jointly organized in Istanbul by the PABSEC and the Parliamentary Assembly of the Council of Europe, with the participation of parliamentarians from 24 countries, representatives of regional and international organizations, as well as prominent international experts. The Conference adopted a Final Declaration emphasizing the urgent need for international cooperation and action to save the Black Sea environment.
7. The Report is based on the scientific researches, proceedings of the relevant international organizations, including documents of the World Water Forum, UN specialized agencies, EU institutions, as well as on the information from the sources of the Black Sea Commission. Rapporteur is thankful to the national delegations of Azerbaijan, Greece, Russia, Turkey and Ukraine for their contributions to Report.

## II. REGIONAL OVERVIEW

8. The comprehensive analysis of entire situation on the water resources in the Black Sea region, as everywhere in the world, is classified by several factors: first, there is a natural factor, when state of water resources is assessed with consideration of geographical location, environmental conditions and climate peculiarities; second, there is a human factor related to the number of human population and human activities, including economic state of affairs of the region in various sectors and its consequences; third, is a global climate change and its impact on the region that can be considered in this regard as a particular issue being as the outcome of both world economic processes and natural ecological transformation occurring on the Earth; the fourth factor is the social implication of the water resources and consideration of water as the strategically important product.
9. The unique ecosystem and biodiversity of the Black Sea is a part of the world water resources unevenly distributed, both between and within countries.
10. The water cycle plays an important role in the climatic system, both conditioning the climate and being affected by it. Changes in precipitation can bring changes not only to the amount and timing of runoff, but also to the frequency and intensity of storms and droughts. Precipitation is unevenly distributed in the Black Sea region, being high in mountainous areas, and varying between seasons and years. Countries or areas that usually have access to adequate water resources suffer shortages at certain times of the year.
11. Climate change is likely to increase flood hazard across the Black Sea region. According to the scientific researches, the risk of water shortage is projected to increase, particularly in the southern parts of the region, and water resource differences between countries will widen. As average temperatures rise, sea levels are also rising, glaciers melting, and the frequency of extreme weather events and precipitation are changing.
12. Some countries are highly dependent on trans-boundary flows, and thus water originating outside the country is essential to meet the needs of the population. These countries are therefore especially vulnerable to the effects of extraction, impoundment and pollution by countries upstream.
13. Water resources of the Black Sea region are vulnerable due to a number of the last region-wide tendencies. During the last 30 years, the Black Sea region has suffered from the industrialization and urbanization rather than other parts of Europe. Rehabilitation and development of the regional economy since early 1990ies has made its consequent ecological affect on natural water areas, firstly rivers and seas. Such a trend has led to the deficiency of pure water resources. Socio-economic life of the region is dependent on continued freshwater supplies for human consumption and basic sectors of agriculture and industry.
14. The core environmental problem of the Black Sea region, identified also by the international expert institutions, can be described as ecologically unsustainable development and inadequate water resources use and management. This problem generated firstly by the following causes: inadequate management of wastewater/solid waste, ecological unsustainable industrial activities, an inadequate land management and improper agricultural practices. These factors produce, on the other hand, three direct consequences: pollution of surface/ground waters, eutrophication of seas and accelerated river runoff/erosion. In their turn, the mentioned consequences have negative effects: decline in life quality, human health risks, degradation of biodiversity and reduced availability of water.
15. As agriculture plays a prominent role in economic life of the most of countries of the region, water use has significantly increased in this sector during last decade, covering such activities, as crop production, livestock, fish farming and forest management. Radical

changes in the 1990ies and active upgrading of agricultural sector with application of the new technologies and standards have contributed to the pollution of water resources.

16. The most important causes of point and diffuse sources from the agricultural sector are the inadequate use of pesticides and fertilizers, the discharge of liquid waste from farms without pre-treatment, leakage of on-site septic tanks and inappropriate forest management and land use. At the same time it should be noted that situation in the agricultural sector has changed since the early 1990ies. Firstly, due to the economic crisis and to the reduction of agricultural subsidies in certain period, there has been a significant reduction in the total agricultural and livestock production, which, along with a decreased application of fertilizers and pesticides, has resulted in some positive changes for the environment. Secondly, environmental legislation in support of adequate agricultural practices began to be developed after 1990ies and the harmonization of agricultural legislation of BSEC member states with the international standards and best practices has been improved in many respects.
17. The industrial sector plays an important role with regard to most of the forms of water pollution. After services, industry, including mining and energy production, is the major economic sector throughout the region. The metallurgy, mining and chemical industries, along with the energy sector, are the most polluting spheres contributing to water contamination through untreated or inadequately treated wastewater discharge and through pollution from accidents. More specifically, there are many interlinked causes related to the industrial sector that contribute to the water pollution. These include the use of dirty and obsolete technologies, the discharge of wastewater without pre-treatment, the shortcoming of the management system and inadequate disposal of wastes and hazardous substances. Because of the severe economic problems experienced by almost all of the countries of region, many industrial plants were closed during the last ten years, and the current economic crisis has enhanced this negative trend. Since restructuring is usually not feasible for industrial installations that have reached the end of their economic life and a shift to cleaner technologies is even more difficult, technologies that are presently in use are frequently outdated, unsafe and highly polluting.
18. Apart from industry and agriculture, the municipal sector has another important specific influence on the water quality of the Black Sea region, since 60% of the overall amount of wastewater comes from this sector. The type and rate of applied wastewater treatment varies widely in each country with regard to the state of infrastructural development and concrete measures undertaken by the authorities. This aspect concerns construction of the new sewer systems and wastewater treatment plants with restoration and upgrading of the existing facilities, improvement of the operation of sewer systems, wastewater treatment plants and treatment of sewage sludge, removal of nutrients in wastewater treatment plants and prevention of water pollution from landfills.
19. Inadequate management of municipal wastewater remains a crucial issue in the Black Sea region. The contamination of groundwater and rivers with untreated wastewater has already harmed the social life in the region, and the long-term effects of such pollution reduce biodiversity in aquatic ecosystems, and affect human water uses, such as drinking water sources.
20. The impact of climate change on the Black Sea region has already started to be experienced, as water challenges, resulting from it, have originated from increasing of natural disasters, such as a flooding, draught, storms and heat waves. The potential impact of the climate change is higher in sectors, which rely on ecosystem services, water availability and climatic conditions, such as agriculture and forestry, fisheries and aquaculture, energy and tourism. According to the researches, in the next 30 years the

annual runoff in the Black Sea region may reduce by 20 to 30%, and by the next decades, huge draughts may occur every 50 years or less.

21. As a result of climate change, water scarcity also negatively impacts power production, and the first indicator of that was a 25% reduction in availability of hydropower in the region during the last five years. Similarly, both the lack of water and the rising temperature affects its availability as a coolant in thermal and nuclear plants, leading to reduced capacity. Other potential impacts include increased energy requirements for pumps and water management infrastructure, as well as the significant energy requirements for desalination in case of meeting freshwater demands in areas of acute scarcity.
22. The environmental impact of the industries, agriculture and municipal sector in the BSEC member states depends on both the structure and the performance of national economies, as well as on the effectiveness of national legislation and institutions. There are visible differences in the performance of national economies, as the economic transition in the countries has often resulted in a switch from heavy industries towards less-polluting lighter industries and services.
23. In spite of significant decrease of water consumption, there is a continuing deterioration of the quality of natural waters, especially observed in the countries with huge infrastructure of heavy industry. In Ukraine this factor is a consequence of long-term shaping economic complex without consideration of the objective environmental requirements concerning development and rehabilitation of the water-resource potential, wherein the preference was given to the development of environmentally more dangerous extractive industries.
24. The decline in economic activities that the Black Sea states are facing has caused an overall pollution reduction from industrial and agricultural pollution sources. Moreover, some countries have developed strategies to address pollution reduction that are directed at construction/reconstruction of wastewater treatment plants, introduction of modern treatment/processing technologies, and introduction of resource saving technologies and cost recovery.
25. Since three BSEC countries – Bulgaria, Greece, Romania, are the members of the EU, they are bound by the European Guidelines, which provide the platform on effective cooperation in relation to water resources management. The basic legal norm here is the Water Framework Directive (WFD) acting as a guideline for international cooperation as it promotes the common planning and management of trans-boundary watercourses among EU member states, as well as between the EU and non EU countries, through the establishment of common and integrated management plans at the river basin level. It should be mentioned that after the adoption of the WFD, existing bilateral agreements between the member states are adapted to the common provisions of the WFD. This means that bilateral agreements between member states should be interpreted in conformity with and be implemented according to the provisions of the Directive, which is the common law within the EU concerning water management.
26. Number of the BSEC member states implements the concrete measures for resolving water resources issues, aimed at the elaboration of the long-term strategy and establishment of specialized agencies. Thus, in Russia in 2003 a special state programme on the water resources management has been elaborated under the initiative of country's President, and in the frame of government the federal agency on the water resources has been established.
27. At the same time, the national policies in the BSEC member states are aimed at waste minimization, reuse, recycling and recovery of landfills. The major legislative and regulatory tools for waste management have been significantly improved.
28. With respect to sustainable human development, a number of the BSEC member states have adopted criteria for environmental impact assessment and environmental audits compulsory for all private and public projects. Environmental impact assessments are fully

integrated in the national legislation of the Black Sea coastal states and mandatory for the new projects implemented in the countries.

29. Sustainable access to clean water and safe sanitation is a priority direction in the policies of the BSEC Member States, as integral to human well-being through the protection of health and environmental conservation. Although the countries of the Black Sea region have achieved considerable improvement in water supply and sanitation, they continue to face the challenges in the following areas: insufficient safe sanitation and adequate wastewater treatment, lack and insufficiency of sewage collection systems, insufficient budget allocations for water supply and sanitation development, significant disproportion in resources devoted to water and sanitation between urban and rural areas, non-conformity of the most of technologies, facilities and infrastructure with modern standards, as well as insufficient use of ecologically friendly sanitation technologies.
30. Deterioration of the physical infrastructure and underdevelopment of technologies in a number of BSEC countries urge them to apply methods of water post-treatment that implies fluoridation and chlorination. Russia, possessing the fifth part of world drinking water reserves, pretends to be a leader at regional and continental level with regard to water purification and supply.
31. With the exception of Turkey, environmental norms for aquaculture are still under development in most of the BSEC member states. In parallel, “green tourism” is well developed in some specific areas of the Black Sea countries, and environmental protection has become one of the key principles of the tourism policies in certain countries.
32. The “polluter pays” principle has a substantial development in the ecological strategies of other BSEC countries. Its application is backed by the implementation of the relevant legislative acts, which leads to the severe financial sanctions, sometimes ending with the bankruptcies of enterprises unable to pay out the penalties. Similar provision is envisaged in the Romanian legislation. Nevertheless, in certain cases closing down the enterprises whose further functioning poses threat to the human lives as it was in the case of Chernobyl, becomes a mere necessity. The interpretation of the “polluter pays” principle as “pollution is permitted to those who pay” is unacceptable. The “polluter pays” principle implies that those who pollute the environment pay the necessary costs that arise as a result of possible environmental damage and rehabilitation of environmental degradation.
33. Some BSEC countries introduced the mechanism of environmental user fees that is considered as an effective means for budgetary recharge with further redistribution of finances according to the needs for implementation of the environmental programmes. Thus, in Armenia the fees for the discharge of hazardous substances in the water basins have been introduced, and the country’s legislation also stipulates the norm on compulsory payments for water consumption.
34. Most of the BSEC member states are in the process of updating their system of environmental standards for water resources use and management. Consequent adaptation of the national environmental legislation to the international norms and regulations aimed at strengthening capacity of the national and regional institutions involved in water management. From the other hand, for achieving more effective implementation of the legal norms, a number of countries focused on adoption of the specific laws, particularly in the EU member countries – Bulgaria, Greece and Romania, a number of laws have been adopted for drinking water, bathing water; pollution caused nitrates, discharged hazard substances and integrated coastal zone management.

### **III. MULTILATERAL AND BILATERAL COOPERATION: BASIC INTERNATIONAL AND REGIONAL LEGAL INSTRUMENTS**

35. Today it is widely recognized that an integrated approach to freshwater management offers the best means of reconciling competing demands with supply and a framework where effective operational actions can be taken. The UN and its institutions have become the initial conduits of shaping the universal regulatory framework addressing the essential environmental challenges in the world.
36. Agenda 21 and the Rio Declaration on Environment and Development were adopted by 178 Governments at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, 3-14 June 1992. Agenda 21 and Rio Principles are comprehensive plans of action to be taken globally, nationally and locally by the organizations of the United Nations System, Governments, and Major Groups in every area in which human impacts on the environment. Agenda 21's freshwater management guidelines focus on the following areas: integrated water resources development and management; water resources assessment; protection of water resources, water quality and aquatic ecosystems; drinking-water supply and sanitation; water and sustainable urban development; water for sustainable food production and rural development; and the impact of climate change on water resources.
37. The Millennium Development Declaration includes the access to safe drinking water as one of the internationally agreed Millennium Development Goals. The water targets are: a) halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation; b) have achieved by 2020 a significant improvement in the lives of at least 100 million slum dwellers.
38. The role of sustainable water management for poverty eradication has been one of the key outcomes of the World Summit on Sustainable Development (WSSD). The plan of implementation outlines several central statements related to freshwater and sanitation issues, including: - combat desertification and mitigate the effects of drought and floods; - develop integrated water resources management and water efficiency plans, with particular support to developing countries; - support developing countries and countries with economies in transition in their efforts to monitor and assess the quantity and quality of water resources; - promote effective coordination among the various international and intergovernmental bodies and processes working on water-related issues, both within the United Nations system and between the United Nations and international financial institutions.
39. The European Union launched the Water Initiative during WSSD, with the aim of creating strategic partnerships to achieve the WSSD goals on clean water and sanitation, and to contribute to meeting the Millennium Development Goals on water. The EU Water Initiative seeks to make significant progress in poverty eradication and health, in the enhancement of livelihoods, and in sustainable economic development, also seeking to serve as a catalyst for peace and security. The actions of the EU Water Initiative are developed in a multi-stakeholder process together with the partner regions, NGOs and the private sector. Close working relations with the partner regions were established in order to ensure that the initiative is shaped in response to demand rather than being pre-determined. Together with its partners, the EU is exploring options to improve the efficiency of existing financing mechanisms and to develop new approaches involving public/private partnerships. The Environment for Europe Conference in Kiev, in May 2003, adopted the EU Water Initiative for the countries of Eastern Europe, Central Europe and Central Asia.
40. On 23 October 2000, the Directive establishing a framework for Community action in the field of water policy - EU Water Framework Directive (WFD) - was adopted. WFD is a

legislative framework to protect and improve the quality of all water resources such as rivers, lakes, groundwater, transitional and coastal waters within the EU. All the EU Member States are bound by the WFD incorporating it into national law. The new approach to managing Europe's water resources in the WFD has ambitious objectives and clear deadlines; the introduction of River Basin Management on a Europe-wide scale; the requirement for cross border co-operation in water management between countries and other parties involved; pollution prevention and control on the basis of a "combined approach"; greater public participation in water management, and economic analysis of water use. The WFD promotes the integrated management of water resources to support environmentally sound development and reduce problems associated with excessive water abstraction, pollution, floods and droughts. The WFD provides the framework for water policy decision-making within the river basin context. It will require the integration of industrial, agricultural, rural development, nature conservation and forestry programmes, etc., at the river basin scale and, in many cases, trans-boundary collaboration between European countries.

41. Environmental cooperation in the Black Sea region is based on the Convention on the Protection of the Black Sea against Pollution, which was signed in 1992 by the six coastal states in Bucharest. The Convention provides for the establishment of a Commission for the Protection of the Black Sea whose main task is to promote its implementation. Under the framework of the Convention, two important Ministerial Declarations have been adopted (the Odessa Declaration of 1993 and the Sofia Declaration of 2002), along with a Black Sea Strategic Action Plan.
42. The Convention on the Protection of the Black Sea against Pollution (or the Bucharest Convention) entered into force in 1994 applies to the Black Sea proper, but it is open for accession to any non-Black Sea state, providing that the non-Black Sea state is invited by all Contracting Parties and that it is interested in achieving the aims of the Convention and in contributing substantially to the protection and preservation of the marine environment of the Black Sea.
43. After the Bucharest Convention was signed in 1992, but before its entry into force, the Ministries of the Environment of the six Black Sea countries approved the Odessa Declaration (1993), in order to set goals, priorities and the timetables needed to bring about environmental actions. The document is largely based upon Agenda 21 (the UN Conference on Environment and Development, 1992).
44. In June 1993, a three-year Black Sea Environmental Programme (BSEP) was launched, with the financial support of Global Environmental Facility (GEF) and the EU (PHARE and TACIS). The three overall objectives of the Programme were: a) to improve the capacity of the Black Sea countries to assess and manage the environment; b) to support the development and the implementation of new environmental policies and laws; and c) to facilitate the preparation of sound environmental investments. However, the most important achievement of the BSEP was the Trans-boundary Diagnostic Analysis (TDA), which can be considered the first step in creating the Black Sea Strategic Action Plan. Prior to the launching of the BSEP, there was a lack of objective information on the causes of the Black Sea environmental crisis and on options available to policy makers for its protection and restoration. The TDA filled this gap by providing a systematic scientific analysis of the root causes of environmental degradation in the Black Sea.
45. Based upon the findings of the TDA, the Strategic Action Plan (SAP), adopted in 1996, defined policy measures, actions and timetables for setting up and achieving the environmental objectives of the Bucharest Convention. The SAP focuses on three major issues that are closely interrelated: the reduction of pollution; the management of living resources and sustainable human development.

46. In June 2002, the Ministries of the Environment of the six Black Sea countries adopted the Sofia Declaration, by which they commit themselves to further improve the Black Sea and the state of its marine and coastal ecosystems. In particular, an agreement was reached on the following measures: to intensify member countries' endeavours to implement the SAP; to improve the data collection and management process in the framework of the BSC; to strengthen work at the national and regional level in sectoral integration in the environmental management, introduction and extensive use of economic environment management tools.
47. The last result of cooperation in the regional framework was the adoption of the Declaration on Water Supply and Sanitation in Small Rural Settlements in the Black Sea region on 27 May 2009 in Sofia at the Ministerial conference held under the auspices of the UN Secretary General's Advisory Board on Water and Sanitation (UNSGAB). The Declaration contains a set of recommendations for governments to spur actions in financing, innovative solutions, education, trans-boundary and regional cooperation for improved sanitation coverage and sustainable water supply.
48. The first legal/institutional framework for cooperation in protecting the Danube water environment through joint measures was established with the signing of the Bucharest Declaration in 1985. The next step, the adoption of the Convention on the Protection and Sustainable Use of the Danube River, was taken in 1994 in response to the need to develop an international water protection strategy for the Danube River.
49. With its entry into force in October 1998, the Convention became the key legal instrument for regulating cooperation and transboundary water management in the basin. To facilitate its implementation, the International Commission for the Protection of the Danube River was established as the main decisionmaking body of the Convention.
50. The Convention on Cooperation for the Protection and the Sustainable Use of the Danube River (Danube River Protection Convention or DRPC) was signed on 29 June 1994 in Sofia by eleven of the Danube riparian states and the European Community. The Convention implements the UNECE Framework Convention on the Protection and Use of Transboundary Water Courses and International Lakes on a regional basis (Helsinki,1992). Moreover, it supersedes the Bucharest Declaration for the Protection of the Danube River against pollution (1985). The contracting Parties to the DRPC are: the European Community, Austria, Germany, Czech Republic, Hungary, Slovak Republic, Bulgaria, Croatia, Romania, Moldova, Serbia and Ukraine.
51. Institutional co-operation between the Black Sea and the Danube countries started in 1997 when representatives of the BSC and the ICPDR, with the assistance of UNDP/GEF and UNEP, set up a Joint Ad Hoc Technical Working Group (JTWG) in a Meeting at Constanta (8-9 December 1997). The broad mandate of the JTWG, is to reinforce cooperation among the states of the Danube River Protection Convention and of the Bucharest Convention in relation to taking practical actions to protect the transboundary waters in the wider Black Sea Basin. In particular, the JTWG aims at creating a common base of understanding and agreement on the changes over time of the Black Sea ecosystem and the reasons for these changes, and to propose practical goals and objectives for remedial actions to address them.
52. In 2001, the Ministers responsible for water protection in the countries of the Danube and Black Sea region signed a Declaration on Water and Water-related Ecosystems in the wider Black Sea region, announcing their aim to improve the water quality of the region, their wish to strengthen cooperation and pursue regional priorities for water quality and improvement projects.

53. Aside from the water conventions/institutions with reference to the Danube River Basin and the Black Sea, other important initiatives are being carried out by the BSEC countries and by the countries sharing some Danube River sub-basins.
54. In January 1995, representatives of Belarus, Russia and Ukraine signed a Memorandum in Kiev, by which they applied to UNDP assistance in developing an international programme on environmental rehabilitation of the Dnieper River Basin, implemented under the aegis of GEF. In June 1996, the Ministers of the Environment from the Dnieper countries signed a joint statement in Helsinki, expressing their intention to provide resources and share equal participation in this programme. The long-term objectives of the programme are: a) to remedy the serious environmental effects of pollution and habitat degradation of the basin, b) to ensure sustainable use of its resources and c) to protect biodiversity. Among the specific objectives of the programme are the creation of a trans-boundary management regime and coordinating body, the formulation of a Strategic Action Programme (SAP) and the building of the capacity needed for SAP implementation.
55. Moreover, on 22 May 2003, the Ministers of the Environment of Belarus, Russia and Ukraine signed a new Declaration to codify their common political will to achieve sustainable use of the basin's natural resources, preservation of its ecosystems and restriction/reduction of trans-boundary pollution impacts. The Ministers stated their readiness to prepare an international agreement to serve as the main organizational mechanism for ensuring stable international cooperation among Dnieper countries, and which should define the general principles, goals, objectives and commitments of the signatories for the basin's environmental rehabilitation. Following such a Declaration, a draft agreement has been prepared, as well as a draft SAP.
56. Another positive example of multilateral cooperation on trans-boundary waters is the Declaration on the Creation of the Prespa Park and the Environmental Protection and Sustainable Development of the Prespa Lakes and their Surroundings adopted on 2 February 2000 by the heads of governments of Albania, Greece and Former Yugoslav Republic of Macedonia on the occasion of the World Wetlands Day (Ramsar Convention). With this, the PRESPA PARK is declared the first trans-boundary protected area in South-East Europe (SEE).
57. It should be noted that most of the countries in this region have ratified the 1992 Helsinki Convention on the protection and use of trans-boundary watercourses and international lakes. The Convention, which entered into force in 1995, establishes a framework for cooperation between the member countries of the United Nations Economic Commission for Europe on the prevention and control of pollution of trans-boundary watercourses, from a perspective of sustainable development.
58. As far as the bilateral cooperation among the BSEC countries on water resources is concerned, basic focus is made on the efforts aiming at effective management of trans-boundary waters based on the issues regarding information sharing and exchange, management of emergencies including forecasting and mitigation of floods, ecosystems approach to water resources and harmonization of legislative and institutional framework on mutual base.
59. An Agreement between the governments of Greece and Albania has been concluded on 3 April 2003 and has entered into force on 21 November 2005 providing for the establishment of a Greek-Albanian Permanent Commission on trans-boundary freshwater issues, with specific tasks, such as, the definition of joint water quality objectives and criteria, the proposal of relevant measures in order to achieve the water quality objectives, the organization and promotion of the establishment of national networks for monitoring of the water quality, etc.

60. There is an on-going cooperation process to prevent and limit floods and mitigate their damaging effects in the Evros/Maritsa River Basin. As far as Greece and Bulgaria are concerned, some agreements between the two countries, dealing with the mutual utilization and management of their shared water resources, were concluded. According to this bilateral agreement, both countries are bound not to cause significant damage to each other, arising from the construction and operation of projects and installations on the trans-boundary river, and to exchange relevant hydrological and technical data. In 1971, an agreement was signed between the two countries for the establishment of a Greek-Bulgarian Committee, dealing with electrical energy issues and with the use of waters of the trans-boundary river. As far as Greece and Turkey are concerned, the existing bilateral agreement pertaining to the regulation of hydraulic facilities on both banks/shores of Evros/Meriç river is of particular importance. This agreement specifies the procedures for constructing dikes and other hydraulic facilities.
61. Bilateral cooperation on water resources management is also expressed in the form of investment activities or allocation of funds concerning rehabilitation and development of existing infrastructure on water supply. Thus, Turkey is one of the essential contributors to the construction of water supply system in southern Moldova, in Gagauzia autonomous territorial unit that enabled to provide almost entire population of southern part of country with freshwater. Turkey, being majorly the upstream country, collaborates on bilateral basis with all neighboring countries with regard to the management of trans-boundary waters. For example, progress has been achieved on the Çoruh River located in North-East Turkey and is shared only with Georgia. Approximately 91% of the basin's drainage area is in Turkey, and Georgia's share amounts to 9%. Regular joint technical meetings are held between Turkish and Georgian experts concerning the construction of dams in Turkey. The necessary measures have been taken to ensure that such water infrastructure projects are realized and run in an environmentally manageable and socially acceptable manner.

#### IV. CONCLUSIONS

62. The challenge, which the Black Sea region faces, is to secure a healthy, sustainable environment at a time when economic recovery and further development are also being pursued. It is clear that only effective regional cooperation could bring the fruitful results in addressing the environmental problems, where the issue of water resources becomes the most critical aspect on the ecological agenda. The BSEC member states have increasingly recognized the need to work together in order to promote sustainable use of water resources. Actions undertaken and multilateral agreements/conventions adopted at regional level have already created the necessary instruments for measures in protection and proper management of the water resources.
63. In spite of undeniable achievements, regional environmental cooperation is still in the early stages of its development in the BSEC area. The region remains economically underdeveloped, especially due to the current economic crisis drastically affecting majority of the BSEC countries. Poverty, poor administrative capacity and inadequate legislation constitute major problems as they lead to the inadequate management of resources. Improved international cooperation with elaboration of new mechanisms can contribute significantly to building capacity through the exchange of best practices and assistance.
64. Consequently, the process of converging with international environmental standards should take into account the following grounds:
- *the legislative ground*: incorporation of the environmental regulations requires a comprehensive analysis of the laws of the BSEC countries in order to enable priorities to be laid down. Since the process of implementation of each law is time-consuming and

- costly, priorities and realistic targets are required. Harmonization of regulations and standards should be of immediate concern.
- *the institutional ground:* strengthening of the administrative structures, increase of efficiency and coordination of the institutions responsible for the management of water resources and the implementation of legislation.
  - *the financial ground:* elaboration of financing strategies and identification of immediate priorities.
65. While addressing legal, institutional and financial priorities the BSEC countries are also asked to coordinate their actions towards achieving sectoral integration of environmental dimension and raising public awareness through more active participation of NGOs, local and regional authorities and the enhancement of environmental education and training. In this regard, media has also an essential role in building public support for protection of water resources. Thus, in order to promote the active and effective participation of the non-governmental sector and mass media, they should be assisted in finding ways to develop their own funding sources locally, whether from public institutions or from the private sector.
66. The BSEC framework of environmental cooperation is still can be evaluated as weak in spite of existing full-fledged mechanisms of cooperation. The first effective step in this direction might be the implementation of basic regional conventions and agreements with participation of all countries, in particular the Bucharest Convention on the Protection of the Black Sea against Pollution of 1992 and Sofia Declaration of 2002. Moreover, indispensable role is assigned to all the BSEC related bodies. Enhanced parliamentary cooperation on the issue of protection and management of water resources will contribute to strengthening national legislation and its implementation in this field. The role of the Black Sea Trade and Development Bank is important in terms of financial support to new initiatives and programmes aiming at the rational use and reservation of water resources in the region. The International Center of the Black Sea Studies could be involved in scientific researches on the issue and in the cooperation of academic communities of the region. Active cooperation with the private sector and assistance of the BSEC Business Council in this regard would be an impetus to the appropriate management of water resources.
67. The issue of preserving and proper management of the water resources must be the one of priorities of cooperation in the PABSEC framework. Such cooperation could be established through the elaboration and implementation of the effective joint and coordinated measures on the protection and preservation of the water resources and trans-boundary flows in the Black Sea region within the special plans of action, programmes and projects.
68. At the same time, there is a common perception that the Black Sea region is facing the crucial water challenges, and situation is worsening due to environmental and economic peculiarities of the region and at the background of the global climate change. Nowadays, international community is advancing in understanding many of the causes and consequences of global warming. The key questions facing the water resources are how climate change will impact the water cycle and what will be the key adaptation strategies to reduce human and environmental risks. Given the number different physical and economic circumstances, there is a need for appropriate responses, technical answers and political decisions required to facilitate these responses and to place the highest priorities in this direction.
69. The BSEC member states along with international community can uphold the possibility of “collective or integrated environmental management”, which will consequently become a basic element for mutual survival of the ecosystems and the people living there. Only

integrated measures on the base of advanced regulatory, institutional and financial framework may meet the contemporary requirements of environmental protection, where water resources play a substantial role. Fulfillment of the environmental tasks, as well as setting up the new efficient environmental strategies within the national and international policies, is a matter of social, economic and even political security of every region.