# CLIMATE CHANGE ADAPTATION IN SOUTH EASTERN EUROPE

















The Environment and Security Initiative (ENVSEC) transforms environment and security risks into regional cooperation. The Initiative provides multistakeholder environment and security assessments and facilitates joint action to reduce tensions and increase cooperation between groups and countries. ENVSEC comprises the Organization for Security and Co-operation in Europe (OSCE), Regional Environmental Centre for Central and Eastern Europe (REC), United Nations Development Programme (UNDP), United Nations Economic Commission for Europe (UNECE), United Nations Environment Programme (UNEP), and the North Atlantic Treaty Organization (NATO) as an associated partner. The ENVSEC partners address environment and security risks in four regions: Eastern Europe, South Eastern Europe, Southern Caucasus and Central Asia.









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A BACKGROUND REPORT

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<sup>\*</sup> This designation is without prejudice to positions on status, and is in line with UNSC 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

### **ACRONYMS AND ABBREVIATIONS**

**DABEO** Dinaric Arc and the Balkans Environment Outlook

**EU** European Union

**GDP** Gross Domestic Product

**GHG** Greenhouse gas

GIS Geographic information system
HDI Human Development Index
HFA Hyogo Framework for Action
IMF International Monetary Fund

IMPEL Implementation and Enforcement of Environmental Law

IPCC Intergovernmental Panel on Climate Change

**NWP** Nairobi Work Programme

**RENA** Regional Environmental Network for Accession

SAP Stabilisation and Association Process

SBSTA Subsidiary Body for Scientific and Technological Advice

**SEE** South Eastern Europe

UNDP United Nations Development ProgrammeUNEP United Nations Environment Programme

**UNFCCC** United Nations Framework Convention on Climate Change

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### Political and Legislative Responses to Adaptation Challenges

### 4.1 THE INTERNATIONAL LEVEL

The analysis of the main impacts of climate change provided in the previous chapters shows that the growing attention given to adaptation, both at international and European policy levels is well justified. Adaptation to climate change, in fact, poses important challenges not only with regard to the design of feasible and suitable scientific responses to the impacts of climate change, but also with respect to policy, governance and management. The most important international programmes for adaptation include the Hyogo Framework for Action, the Nairobi Work Programme and the Cancun Adaptation Framework.

The Hyogo Framework for Action (HFA) was adopted by the Member States of the United Nations at the World Conference on Disaster Reduction in 2005 as a "10-year plan to make the world safer from natural hazards".18 It was created as an instrument to implement disaster risk reduction and build nations' and communities' resilience to disasters by achieving effective reduction of disaster losses in lives and in social, economic and environmental assets. The plan is structured around the following five priorities for action: ensuring that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation; identifying, assessing and monitoring disaster risks and enhancing early warning; using knowledge, innovation and education to build a culture of safety and resilience at all levels; reducing the underlying risk factors; and strengthening disaster preparedness for effective response at all levels.

In 2005 the Nairobi Work Programme (NWP)<sup>20</sup> was launched under the umbrella of the UNFCCC and its Subsidiary Body for Scientific and Technological Advice of the Convention (SBSTA) to support all Parties, especially developing countries (including the least developed countries and small island developing states), to improve their understanding of vulnerability and adaptation to climate change and to take informed decisions on practical adaptation measures based on a sound scientific, technical and socio-economic rationales.

For each priority, various key activities are listed and, in general, attention is given to collaboration and cooperation among states, international and regional organizations, institutions and civil society. The HFA is linked to the International Strategy for Disaster Reduction framework adopted by the Member States of the United Nations in 2000 to achieve substantive reduction of disaster losses and to build resilient communities and nations, as an essential condition for sustainable development. The secretariat of the International Strategy for Disaster Reduction serves as the focal point for the implementation of the HFA.

<sup>18</sup> Hyogo Framework for Action, http://www.unisdr.org/eng/hfa/hfa.htm. For further info on the Hyogo Framework see International Strategy for Disaster Reduction (ISDR), The Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to disasters at http://www.unisdr.org/files/1037\_hyogoframeworkforactionenglish.pdf.

<sup>19</sup> International Strategy for Disaster Reduction, http://www.unisdr.org/#.

<sup>20</sup> Nairobi Work Programme on Impacts, Vulnerability and Adaptation to Climate Change, http://unfccc.int/adaptation/nairobi\_work\_programme/items/3633.php. In December 2006, at SBSTA 25 in Nairobi, Parties adopted conclusions relating to the "Five-year programme of work on impacts, vulnerability and adaptation to climate change". COP 12 renamed the five-year programme of work to the "Nairobi work programme on impacts, vulnerability and adaptation to climate change".

The NWP is structured around the following nine areas of work: methods and tools; data and observations; climate modelling, scenarios and downscaling; climate-related risks and extreme events; socioeconomic information; adaptation planning and practices; research; technologies for adaptation; and economic diversification. Each of these work areas has a timetable for actions and deliverables. The NWP stresses the roles of stakeholders -Parties, intergovernmental and non-governmental organizations, the private sector, communities and others. After the second phase of the NWP, in December 2010, the SBSTA noted that progress had been made towards meeting the objectives, especially in advancing knowledge of adaptation and in catalysing action, but that additional effort was needed to assist the Parties in improving their understanding and assessment of impacts, vulnerability and adaptation and in taking informed decisions on the implementation of practical adaptation actions and measures.

Adaptation has been recognized, together with mitigation, technology, finance and a shared vision, as one of the five key issues in the framework of the UNFCCC negotiations after 2012. The Copenhagen Accord stressed the need for enhanced action on adaptation to reduce vulnerability and build resilience

in the most vulnerable developing countries, providing for developed countries' financial commitment to address both adaptation and mitigation. This is to be funded by US\$ 30 billion for 2010–2012 and long-term finance of US\$ 100 billion annually by 2020. The 2010 Cancun Adaptation Framework<sup>21</sup> clearly affirms that adaptation must be addressed with the same level of priority as mitigation.

The Cancun Adaptation Framework identifies five implementation, support, institutions. clusters: principles and stakeholder engagement. adaptation committee at the global level is to promote the implementation of enhanced, coherent action on adaptation, together with the strengthening or the establishment of institutions such as regional centres and networks, in particular in developing countries. The guiding principles, besides a general accordance with the UNFCCC, include basing decisions on the best available science and, as appropriate, on traditional and indigenous knowledge and following a country-driven, gender-sensitive, participatory and fully transparent approach, especially taking into consideration vulnerable groups, communities and ecosystems. Finally, the Framework recognizes the importance of engaging a broad range of stakeholders at the global, regional, national and local levels.

<sup>21</sup> Cancun Adaptation Framework, paras 11-35 Outcome of the work of the Ad Hoc Working Group on long-term Cooperative Action under the Convention, 2011.

### 4.2 THE EUROPEAN LEVEL

The European Commission has explicitly recognized that a more strategic approach is needed to ensure that timely and effective adaptation measures are taken to promote coherence across different sectors and levels of governance.<sup>22</sup>

At the EU level, the first European Climate Change Programme aimed at identifying the most costeffective policies and measures to cut GHGs emissions. The second Programme, launched in 2005, addressed the adaptation issue through the creation of a dedicated working group consisting of the following subgroups: Building national strategies for adaptation (country reports); Impacts on water cycle and water resources management and prediction of extreme events; Agriculture and forestry; Biodiversity; Human health: Regional planning, built environment. public and energy infrastructure, Structural funds; Marine resources and coastal zones and tourism: Urban planning and construction; Role of insurance industry; and Development cooperation. The general objective of the working group is to define the EU role in adaptation policies in order to fully integrate adaptation into relevant European policy areas, to identify good and cost-effective practice in the development of adaptation policy and to foster learning.23

In 2004, the EU Council of Ministries adopted the European Union Action Plan on Climate Change in the Context of Development Cooperation, which lists support for adaptation as one of its strategic objectives. The Action Plan includes measures aimed at sustaining partner countries in three strategic areas – drafting of vulnerability assessments and national adaptation programmes of action for least developed

countries; developing guidelines for integrating climate change into development programmes; and supporting capacity-building in developing country institutions to prepare for (and reduce the) impact of climate change-related disasters.<sup>24</sup>

To address the adaptation challenge, the European Union, on the basis of the consultation launched in 2007 by the Green Paper on Adapting to Climate Change in Europe, 25 issued in 2009 a White Paper on Adaptation.26 This White Paper designs a two-phase framework for adaptation measures and policies to improve Europe's resilience to climate change. The framework is based on four approaches: improving the knowledge base on climate change impacts, vulnerabilities, costs and options for adaptation measures; integrating climate change impacts into all key European Union policies; financing climate change policy measures; and supporting wider international efforts on adaptation by helping non-European countries to improve their resilience and capacity to adapt to climate change, stressing the importance of European Union external cooperation.

The White Paper highlights the role of the Global Climate Change Alliance,<sup>27</sup> through which the EU provides resources to address climate change in less developed countries. The Global Climate Change Alliance, started in 2007, is aimed at deepening the policy dialogue between European and developing countries, in particular least developed countries and small island developing states, as well as providing financial and technical assistance for both mitigation and adaptation measures and for the integration of climate change into development strategies.

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<sup>22</sup> White Paper on Adaptation, cit.

<sup>23</sup> ECCP II - WG 2: Impacts And Adaptation, Mandate, http://circa.europa.eu/Public/irc/env/eccp\_2/library?l=/impacts\_adaptation&vm=detailed&sb=Title.

<sup>24</sup> EU action against climate change - Working with developing countries to tackle climate change, European Commission, 2006.

<sup>25</sup> The Green Paper devotes one section to the integration of adaptation into EU external actions, dealing specifically with adaptation measures in developing countries.

<sup>26</sup> White Paper - Adapting to climate change: Towards a European framework for action, COM(2009)147 final.

<sup>27</sup> Global Climate Alliance, http://www.gcca.eu/pages/14\_2-Background-and-Objectives.html.

Adaptation is one of its priority areas and related actions include the establishment of national plans based on in-depth research on the likely effects of climate change, reliable climate observation as well as the development and implementation of adaptation strategies. Moreover, in the White Paper, the EU affirms its intention to set up an Impact and Adaptation Steering Group, supported by a number of technical groups and composed by representatives from EU Member States involved in the formulation of national and regional adaptation programmes, and a Clearing House on climate change impacts, vulnerability and adaptation as a Web-based platform for the exchange of information across Europe. Such a mechanism should play an important role in creating a common and shared knowledge basis, thus easing national, regional and local assessments of the impacts of climate change throughout Europe. Table 3 provides an overview of the main tasks assigned to the Clearing House.

Table 3: The Clearing House Mechanism on climate change

CLIMATE CHANGE OBSERVATIONS AND SCENARIOS	IMPACTS AND VULNERABILITY	ADAPTATION PLANS AND STRATEGIES	ADAPTATION MEASURES, ACTIONS
<ul> <li>GMES – Essential climate variables</li> <li>Link with GFCS + regional / national centers</li> <li>Land-use, water, socio-economic observations, statistics and scenarios</li> </ul>	Integration information on climate, land-use, water, ecosystems, socio-economic variables  • Exposure to impacts, sensitivity and adaptive capacity  • Detailed geographical and sectoral perspective  • Vulnerability indicators, policy-oriented	<ul> <li>Information on existing adaptation strategies, key institutions and stakeholders</li> <li>Joint activities between MS and third countries (research, adaptation measures)</li> <li>Practical tools for the development of adaptation policy</li> </ul>	<ul> <li>Extended database of measures</li> <li>Typology</li> <li>Assessment of environmental, social economic impacts</li> <li>Identifying no-regret measures</li> </ul>

Source: J. Delsalle, European Commission, DG Environment, Workshop with National Adaptation Knowledge Platforms, Brussels, 2009

In 2009, in the preparatory phase of the Copenhagen Conference, the EU released a communication<sup>28</sup> aimed at reaching a comprehensive climate change agreement in Copenhagen addressing both mitigation and adaptation. The communication stressed the need for systematically integrating adaptation into national strategies while improving the tools to define and implement adaptation strategies. The approaches include methodologies and technologies for adaptation and capacity-building, as well as a strengthened role for the UNFCCC process by mobilizing stakeholders and a more coordinated approach to risk management and disaster risk reduction. The related costs, estimated by the UNFCCC at US\$ 23-54 billion per year by 2030 for all the developing countries, could be partially covered by the existing Adaptation Fund. Additional funds will also be needed, and innovative sources of finance will have to be explored.29 To this end, in 2009 the European Council, recognizing the need for a significant increase in public and private financial flows to 2020, declared its willingness to contribute Fast-Start funding of € 2.4 billion annually for 2010-2012.

In the same year, the EU launched the Strategy for Supporting Disaster Risk Reduction in Developing Countries, an effort to contribute to sustainable development and poverty eradication by reducing the burden of disasters on the poor and the most vulnerable countries and population groups by means of improved disaster risk reduction.<sup>30</sup> This strategy aims at integrating disaster risk reduction within development cooperation efforts and climate change adaptation, in line with the 2007 Bali Action Plan, which identifies disaster reduction strategies as a means to enhance action on adaptation.

The EU committed itself to support the three following strategic objectives: to sustain developing countries in integrating disaster risk reduction considerations into their development policies; to support developing countries and societies in reducing disaster risk more effectively through targeted action on disaster prevention, mitigation and preparedness; and to integrate disaster risk reduction considerations more effectively into EU development and humanitarian aid policies and programming. In so doing, the EU identified focal areas ranging from ensuring that disaster risk reduction is a national and local priority with a strong institutional basis for implementation to using knowledge, innovation and education in order to build a culture of safety and resilience at all levels. Besides turning to the full range of funding instruments at its disposal, the EU will also explore other ways of mobilizing innovative, additional funding.

The EU also funded, or co-funded, many projects for adaptation, such as the Advancing Capacity to Support Climate Change Adaptation project to create a geographically diverse set of adaptation schemes to address climate risks in developing countries,<sup>31</sup> the Tropical Forests and Climate Change Adaptation project to help the communities which depend on tropical forests to adapt to climate change<sup>32</sup> and the Adaptation and Mitigation Strategies project to improve understanding of the synergies, trade-offs and conflicts between adaptation and mitigation policies.<sup>33</sup> Furthermore, it supports several other bilateral or regional projects to help adaptation and capacity-building efforts by developing countries.

### 4.3 THE SOUTH EASTERN EUROPE LEVEL

The South Eastern Europe countries have already developed national plans containing specific initiatives on adaptation. The tables below show the main anticipated initiatives by sector for each of the SEE countries.<sup>34</sup>

<sup>28</sup> Towards a comprehensive climate change agreement in Copenhagen, COM(2009)39,.

<sup>29</sup> For an in-depth analyses of the different funding options, see COM(2009)39.

<sup>30</sup> EU Strategy for Supporting Disaster Risk Reduction in Developing Countries, COM(2009)84 final.

<sup>31</sup> Advancing Capacity to Support Climate Change Adaptation project, www.acccaproject.org/accca/.

<sup>32</sup> Tropical Forests and Climate Change Adaptation, http://www.cifor.cgiar.org/trofcca/\_ref/home/index.htm.

<sup>33</sup> Adaptation and Mitigation Strategies project, http://www.adamproject.eu/.

<sup>34</sup> Please note that it was not possible to obtain an information on the adaptation plan of Kosovo/Territory under UN Administration.

### Table 4

### **ALBANIA**

Sector	Measures (Republic of Albania: Ministry of Ministry of Environment)
Water	<ul> <li>→ Modification of existing physical infrastructure</li> <li>→ Construction of new infrastructure</li> <li>→ Water pollution control</li> <li>→ Improvement of the monitoring and forecasting system for flood and drought</li> <li>→ Drafting and approval of new legislation for water use</li> <li>→ Setting a real water consumption fee</li> <li>→ Implementation of the Integrated Coastal Zone Management Plan</li> </ul>
Natural Ecosystem	<ul> <li>→ The establishment and maintenance of protected areas (in-situ conservation)</li> <li>→ The active management of wild populations outside of protected areas (inter-situ manage ment)</li> <li>→ The maintenance of captive populations (ex-situ methods)</li> <li>→ Monitoring</li> </ul>
Agriculture	<ul> <li>→ Afforestation and the setting up of the barriers to protect the arable land threatened by soil erosion and alteration</li> <li>→ Planning of agricultural production toward xerophilic crops to allow adaptation to the higher winter and summer temperatures and to the scarcity of water in summer.</li> <li>→ A significant improvement in irrigation sector.</li> <li>→ In plant protection from different pests and diseases.</li> <li>→ In plant protection from different pests and diseases.</li> </ul>
Forestry	<ul> <li>Preparation of the Strategy of Sustainable Development of Forest.</li> <li>Preparation and implementation of the research programs.</li> <li>Evaluation of the actual situation for each forest type, in relation with climate change and sea level rise.</li> <li>Increasing of the protected forest area.</li> <li>Reduction of the illegal cuttings at the maximum extent and studying of the real need for fuelwood.</li> <li>Increasing of the investments to implement more actions in existing forests and environmental protection areas.</li> <li>Implementation of actions to increase the existing forest productivity</li> <li>Increasing of the forest area through the new reforestation.</li> <li>Study and monitoring of the forest health situation as well as effects of applied measures in forests.</li> </ul>
Tourism	<ul> <li>The provision of new power supply resources and the rearrangement of the appropriate distribution system.</li> <li>The construction of new sewage systems for both households and industry, as well as new processing units for all the urban waste.</li> <li>The rehabilitation of several road segments, and the construction of new roads, compatible with international quality standards, with high embankments so as to handle the rise of the sea level.</li> </ul>
Energy	<ul> <li>Consider expected change of runoff / water flow rate in integrated resource planning.</li> <li>Account for the expected change in runoff / water flow rate in the design of hydropower plants.</li> <li>Invest in energy conservation (Demand site Management) measures for space cooling.</li> <li>Reduce energy subsidies.</li> <li>Account for the expected change in runoff/water flow rate in the design of thermal power facilities.</li> </ul>

### **BOSNIA AND HERZEGOVINA**

Sector	Measures (Bosnia and Herzegovina: Ministry of Environment and Tourism of Federation of BiH, the Ministry of Physical Planning, Civil Engineering and Ecology of Republic of Srpska)
Water	<ul> <li>→ Inclusion in the coastal zones management programmes</li> <li>→ Construction dams and accumulation reservoirs for hydropower generation, agriculture, drinking water, tourism, fish-farming, etc.</li> <li>→ Reduction in anthropogenic impacts on the coastal and sea areas.</li> <li>→ Training on the efficient use of water and reduction of losses in distribution</li> <li>→ Strengthening the system of water quantity monitoring and forecasting;</li> <li>→ Development of a Hydrological Information System</li> </ul>
Natural Ecosystem	<ul> <li>Improvements in the legislative system and in enforcement in the area of nature protection</li> <li>Improvement of the protected areas management system</li> <li>Implementation of nature protection measures throughout the country</li> <li>Increase in the amount of territory designated as protected areas by law.</li> <li>Consideration of potential changes in habitat due to climate change when establishing the boundaries of national parks and protected areas</li> </ul>
Agriculture	<ul> <li>Changes in crop mix</li> <li>Modification of crop rotation</li> <li>Inclusion of agriculture in water management programmes</li> <li>Construction of reservoirs and canals for agricultural needs</li> <li>Use of drip irrigation techniques</li> <li>Training for farmers and decision-makers on new technologies for land cultivation</li> <li>Training on protection of livestock against overheating</li> <li>Assisting farmers to cover costs of bad weather insurance policies</li> </ul>
Tourism	<ul> <li>→ Promote the development of year-round tourism</li> <li>→ Providing information to entrepreneurs from the tourism industry about anticipated climate changes (change in the snow regime)</li> <li>→ Production of artificial snow</li> </ul>
Forestry	<ul> <li>→ Conduct a detailed mapping of forests</li> <li>→ Afforestation of bare areas</li> <li>→ Change of species in the process of forest development</li> <li>→ Establishment of plantation forests for the needs of industry and energy</li> <li>→ Increased protection of forests against pests and plant diseases</li> <li>→ Higher level of care for forest protection</li> <li>→ Improve the forest fire protection system</li> </ul>
Energy h	<ul> <li>Planning of energy development (energy industry) within the regional cooperation (SEE) initiative</li> <li>Introduction of integrated water resource management</li> <li>Development of renewable energy sources to promote employment opportunities (especially in villages) and decrease the level of dependence on energy imports</li> <li>Include the effects of anticipated climate changes during development of annual and seasonal energy balances</li> <li>Stimulation of increases in energy efficiency on the demand side (buildings, industry, transport)</li> </ul>

### CROATIA

Sector	Measures (Republic of Croatia: Ministry of Environmental Protection and Physical Planning)
Water	<ul> <li>→ Planning and management</li> <li>→ Investigation and study of the natural systems</li> <li>→ Strategy of water resources management</li> </ul>
Agriculture	<ul> <li>Reduced application of agrochemicals</li> <li>Reduced leaching of nutrients and ecologically risky chemical</li> <li>Reduced emission of greenhouse gases from soil</li> <li>Choice and adequate rotation of winter and spring crops, high-density crops and row crops, as well as crops with longer and/or shorter growing periods, in compliance with the new changed climate conditions</li> <li>Development of new agricultural areas</li> <li>Reintroduction of old, domestic cultivars that used to be grown in these parts</li> <li>Animal protection from direct sunshine by providing shady places or ro- ofed shelters.</li> </ul>
Forestry	<ul> <li>→ Natural regeneration</li> <li>→ Introduction indigenous tree species, especially those that are missing in the structure of forest community and belong to that habitat.</li> </ul>
Tourism	→ The development of tourism through the principle of "multifunctional role of agriculture and land".
Energy	<ul> <li>→ Gas Introduction Program: PLINCRO</li> <li>→ Energy Efficiency Programs: KUENzgrada - building energy efficiency, MIEE - industrial energy efficiency networks, KOGEN - cogeneration, KUENcts - district heating systems energy efficiency, TRANCRO - transport energy efficiency</li> <li>→ Renewable Energy Resources Programs: BIOEN - energy from biomass and waste, SUNEN - use of solar Energy, ENWIND - use of wind Energy, GEOEN - use of geothermal Energy, MAHE - small hydro projects</li> </ul>

### THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

Sector	Measures (The former Yugoslav Republic of Macedonia: Ministry of Environment and Physical Planning)
Water	<ul> <li>→ Modernization of the hydro-meteorological network</li> <li>→ Data monitoring establishment</li> <li>→ Reconstruction and rehabilitation of the built structures and systems</li> <li>→ Water resources management</li> <li>→ Modernization of the network, data monitoring establishment of the meteorological, hydrological and water quality parameters, efficient processing of the measured data, implementation of the real time predictive models</li> <li>→ Water losses reduction, placing of pressure and flow meters, implementation of dual supply systems for potable and non-potable water, recycling of water for non-potable uses, rain water collection for non-potable uses.</li> <li>→ Water efficient appliances, waste water purification and their re-use, street and car washing with</li> </ul>
	→ Water efficient appliances, waste water purification and their re-use, street and car washing with recycled waters.

Natural Ecosystem	→ Establishing scientific infrastructure for evaluation of climate change impact on biodiversity and terrestrial ecosystems and training of experts for climate change issues and implementation of modern technologies
	→ Collection of data necessary for the estimation of climate change impact on biodiversity and establishment of database with a detailed study of the distribution and origin of refugial communities in
	the former Yugoslav Republic of Macedonia and migration paths
	→ Establishment of intersectoral body between the sector of water resources management and biodiversity
	→ Elaboration of the climate change impact on biodiversity and terrestrial ecosystems in the former
	Yugoslav Republic of Macedonia and preparation of National Strategy
	→ Public awareness raising concerning climate change issues.
	→ Elaboration of biocorridors and migration paths of different species in climate change condition
	→ Establishment of seed bank of endemic and other important species
	→ Evaluation of the possibilities for preservation of vulnerable animals in captivity
	→ Increasing the surface of protected areas and establishment of new protected areas and preparation of network of protected areas in accordance with the recommendations of NATURA 2000, EMERALD etc
	→ Establishment of network of climatological stations in the region of Nidzhe and Mariovo in order to
	obtain more detailed data of the changes in the clima zonal ecosystems
Agriculture	→ Defining the parameters of sustainability and their limits are one of the most important challenges
	of the soil science in the years to come
	→ Education of the farmers how to improve their agricultural practice in order to overcome problems
	caused from the climate changes and if possible, to turn such changes into advantage through
	better use of irrigation water, improved agricultural practice, planting crops and cultivars that are
	adapted to expected changes, changes in soil cultivation in order to conserve soil
	→ Better use of available water, better use of soil fertility and better use of prolonged growing period
	→ Redirections of the breeding programs' goals towards adaptation of the new genetic proveniences to different climate conditions
	→ Application of new feed and feeding management programs
	→ Proper farmhouse construction and farmhouse equipment that will enable keeping the farmhouse microclimate inside the range of thermo neutrality.
Forestry	→ Permanent control of the oak dieback process, as well as the other tree species, and a sanitary cut should be performed that could lead to prevention of development of some specific tree diseases, harmful insects and animals
	→ Increase of the protection degree of the forests from forest fires at much higher level from the present one
Energy	<ul> <li>→ The optimal expansion plan in the electro power system for the next 30 years is projected</li> <li>→ New hydro power plants will be built, some of them reversible</li> </ul>
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### **MONTENEGRO**

Sector	Measures (The Republic of Montenegro: Ministry for Spatial Planning and Environment)
Water  Natural Ecosystem	<ul> <li>→ Prepare the cadastre of water resources and each water resource with all its characteristics and identify areas of potential danger</li> <li>→ Establish a high level of information exchange among different institutions dealing with water resources</li> <li>→ Provide a modern automated measuring and control system for the controlled management of water resources</li> <li>→ Provide numerical models and their use in daily operational practice, for the purpose of daily monitoring of the status of water resources</li> <li>→ Amendments to the applicable legislation in the field of spatial planning in order to include the problem of climate change in coastal during the preparation of spatial planning documentation</li> <li>→ Provide for maximum possible protection of water sources from the penetration of sea water</li> <li>→ Establishing an infrastructure for scientific research of impacts of climate change on biodiversity, terrestrial ecosystems and the sea</li> <li>→ Training of experts on the issues of climate change and implementation of modern technologies</li> <li>→ Collection of necessary data to assess the impacts of climate change on terrestrial ecosystems, the sea and biodiversity</li> <li>→ Appointment of an intersectoral group which will deal with the issues of water resources</li> <li>→ Elaboration bio-corridors and migratory routes of various species under the conditions of climate change</li> <li>→ Establish a gene bank of endemic, threatened and endangered species</li> <li>→ Assessment of options for the protection of biodiversity (species) under ex situ conditions</li> <li>→ An increase of surface area under protection in accordance with the approved official documents</li> </ul>
Agricultura	(The Spatial Plan of Montenegro until 2020; The National Strategy for Sustainable Development)
Agriculture	<ul> <li>Make the agricultural system more flexible, so as to minimize any adverse impacts and disasters on a broad level</li> <li>Introduction of the use of breeds that are resistant to heat stress and tropical disease</li> <li>Education for the producers in the application of new technical adjustments</li> </ul>
Forestry	<ul> <li>Conversion of coppice forests into high forests</li> <li>Rehabilitation of degraded forests;</li> <li>Substituting of failed natural regeneration in high forest;</li> <li>Preventive measures to protect forests and methods of biological fighting must have a primary character.</li> </ul>

### SERBIA

Sector	Measures (The Republic of Serbia: Ministry of Environment and Spatial Planning)
Water	<ul> <li>→ Build regional systems (Banat, West Baĉka, Rzav, etc.)</li> <li>→ Improve maintenance of existing source profiles</li> <li>→ Reduce loss in water supply systems</li> <li>→ Build waste water treatment plants for all residential areas larger than 2000 ES</li> <li>→ Harmonize the building of new irrigation systems for the needs of agriculture</li> <li>→ Reconstruct the existing drainage system (the Danube region, HS DTD, etc.) and build new drainage systems</li> <li>→ Develop existing systems and increase protection against flooding, especially in large residential areas (Belgrade, Novi Sad, etc.), as well as in the areas with inadequate protection against floods Forestation of areas degraded by erosion Protect capital values from erosion and torrents</li> </ul>
Natural Ecosystem	<ul> <li>→ Create a data base on biodiversity</li> <li>→ Introduce monitoring of the effects of climate change on biodiversity</li> <li>→ Adjust the protection programme at the level of species</li> <li>→ Develop structures for the scientific evaluation of biodiversity status affected by climate change</li> <li>→ Develop models for the assessment of the effects of climate change on biodiversity</li> <li>→ Regulate management plans for protected areas</li> </ul>
Agriculture	<ul> <li>→ Improve the methodology for the assessment of vulnerability based on agroclimatic indices</li> <li>→ Change soil treatment by using techniques that will conserve the humidity of soil</li> <li>→ Develop monitoring system for early warning against drought</li> <li>→ Introduce measures to reduce erosion in hilly and mountainous areas</li> <li>→ Optimal fertilization</li> <li>→ Install nets for protection against hail and frost</li> <li>→ Simulate climate change impacts on agricultural production by using plant production models</li> <li>→ Model the occurrence of plant diseases and vermin under changed climate conditions</li> </ul>
Forestry	<ul> <li>→ Revitalize forests in the Danube foreland basin</li> <li>→ Improve resilience and revitalize</li> <li>→ Develop dynamic and purpose—oriented conservation of forest biodiversity, areas under forests and urban areas</li> </ul>
Tourism	→ Develop climate monitoring system and spatial data bases concerning local and regional climate change, including information about extreme climate episodes and disasters and vulnerability of certain areas so that they may be used in strategic planning
Energy	→ Improve the use of biomass for products and energy

Besides their national initiatives, the SEE countries have started to develop common cooperation plans and activities, and after a long period of conflict, a certain degree of cooperation and integration in the region is occurring.

Table 5 shows how SEE countries are involved in international or interregional initiatives for environmental protection and the preservation of natural areas. It focuses in particular on actions that have already been implemented or are in progress.

Table 5: Regional and cross-border cooperation among SEE countries

Table 5: Regional and cross-border cooperation among SEE countries		
Country	State of regional and cross-border cooperation	
Albania	<ul> <li>→ SEECP;</li> <li>→ South East European Cooperation Initiative;</li> <li>→ The Adriatic –Ionian Initiative;</li> <li>→ The Black Sea Economic Forum;</li> <li>→ REReP;</li> <li>→ Memorandum of Understanding on the Management of Use of Common Natural Resources;</li> <li>→ DABEO;</li> <li>→ The Central European Initiative</li> </ul>	
Bosnia and Herzegovina	<ul> <li>→ REReP;</li> <li>→ FORMEZ;</li> <li>→ MoFTER;</li> <li>→ Sava River Basin Framework Agreement;</li> <li>→ Dinaric Arc Initiative;</li> <li>→ The Central European Initiative;</li> <li>→ Danube Cooperation Process.</li> </ul>	
Croatia	<ul> <li>Sava River Basin Framework Agreement;</li> <li>Memorandum of Understanding on the Regional Electricity Market in South East Europe;</li> <li>Agreement on the Protection of the Adriatic Sea and Coastal Area from the Pollution;</li> <li>UNEP/MAP;</li> <li>Commission on the Protection of the Adriatic Sea;</li> <li>Agreement on Foundation of Joint Committee for Natural Wealth Management and for Cooperation in Natural and Other Catastrophes;</li> <li>DABEO;</li> <li>The Central European Initiative;</li> <li>Dinaric Arc Initiative;</li> <li>Danube Cooperation Process;</li> <li>Alps-Adriatic Working Community</li> </ul>	
The former Yugoslav Republic of Macedonia	<ul> <li>→ SEECP;</li> <li>→ The Central European Initiative</li> <li>→ Memorandum of Understanding on the Management of Use of Common Natural Resources;</li> <li>→ The Join Protect Document of Neighbourhood Initiative;</li> <li>→ Trilateral Project for Prespa Park;</li> <li>→ CARDS/INTERREG III A;</li> <li>→ INTERREG III B CADSES;</li> <li>→ DABEO;</li> <li>→ Dinaric Arc Initiative</li> </ul>	

Country	State of regional and cross-border cooperation
Montenegro	<ul> <li>→ SEECP;</li> <li>→ The Black Sea Economic Forum;</li> <li>→ The International Commission for the Protection of the Danube River;</li> <li>→ REReP;</li> <li>→ DABEO;</li> <li>→ Dinaric Arc Initiative;</li> <li>→ The Central European Initiative;</li> <li>→ Danube Cooperation Process.</li> </ul>
Serbia	<ul> <li>&gt; SEECP;</li> <li>&gt; The Black Sea Economic Forum;</li> <li>&gt; The International Commission for the Protection of the Danube River;</li> <li>&gt; REReP;</li> <li>&gt; Cooperation in the Area of Plant Quarantine and Plant Protection;</li> <li>&gt; Agreement on Foundation of Joint Committee for Natural Wealth Management and for Cooperation in Natural and Other Catastrophes;</li> <li>&gt; DABEO;</li> <li>&gt; Dinaric Arc Initiative;</li> <li>&gt; The Central European Initiative;</li> <li>&gt; Danube Cooperation Process.</li> </ul>
Kosovo*	<ul> <li>→ REReP;</li> <li>→ DABEO;</li> <li>→ Dinaric Arc Initiative;</li> <li>→ Danube Cooperation Process.</li> </ul>

Source: Elaboration on countries' national communications to the UNFCCC

 $<sup>\,^*</sup>$  This designation is without prejudice to positions on status, and is in line with UNSC 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

Positive examples of interregional cooperation for environmental protection in the SEE region include several initiatives related to the preservation of the wealth and integrity of the Dinaric Arc - the Dinaric Arc Initiative,35 the Dinaric Arc Ecoregion Project36 and the Dinaric Arc and the Balkans Environment Outlook (DABEO).37 These cooperative ventures support various actions for the conservation of biological diversity and the sustainable management of natural resources and related economic sectors such as agriculture, water and waste management. DABEO, in particular, addresses the specific need to report on a highly ecologically sensitive mountainous region, which includes parts of Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Greece, the former Yugoslav Republic of Macedonia, Montenegro, Serbia, Kosovo\* and Slovenia. Its main purpose is to develop a fully informed, professional and scientifically valid integrated environmental assessment of the Dinaric Arc and Balkan Mountains region using a coherent data collection process to assure comparability across national borders and integration across disciplines. A DABEO Database and Information System is meant to support an eventual regional policy instrument, and to guide local, national and regional actions and policies to improve environmental conditions and the quality of life in local communities.38

In 2008, five of the South Eastern Europe countries – Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro and Serbia – reached agreement on a South-East European Climate Change Framework Action Plan for Adaptation creating a common platform for subregional cooperation on climate change. This action plan, which aims to design and implement effective adaptation responses in the region, identifies adaptation needs and actions with regard to different sectors, as shown in table 6.

<sup>35</sup> http://www.cbddinaricarc.com/content/view/13/28/.

<sup>36</sup> http://www.cbddinaricarc.com/.

<sup>37</sup> http://www.grid.unep.ch/activities/assessment/DABEO/index.php.

<sup>38</sup> http://www.grid.unep.ch/activities/assessment/DABEO/index.php.

<sup>\*</sup> This designation is without prejudice to positions on status, and is in line with UNSC 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

### Table 6

### 1. CLIMATE CHANGE AND PUBLIC HEALTH, SAFETY AND EMERGENCY PREPAREDNESS

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### Need for information exchange and technology transfer:

- → improving current information on the health impacts of weather and climate extremes;
- perform regular health monitoring, establish emergency alert systems and data sharing. There should be health surveillance monitoring in extreme cases of weather, e.g. to observe the possible effects of hot dry summers or flooding on human health
- → facilitate of sharing of data and lessons learnt, e.g. awareness raising with the examples of the best an good practices
- → help addressing the climate change issues in health adaptation in health and non-health policy areas (water, building, etc.)
- → incorporate climate change adaptation measures into national environmental health action plans
- → incorporate climate change adaptation measures into national action plans on environment and children's health
- → improve access to information for the stakeholders and the public

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### Needs for additional research:

- impact assessment (health-related effects of temperature increase, air pollution, probabilities of future risks from flooding, infectious diseases, etc.)
- → adaptation assessment (surveillance and monitoring of pathogens, epidemiological studies on exposure and relative risks, risk and (cost-benefit modeling, etc.)
- → mapping of vector-borne diseases at the sup-regional level, produce risk maps to aid direct activities in potential risk areas.

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### Specific needs:

- → establishment of national early warning systems for the notification of harmful effects of weather variables on human health
- strengthening of capacities at the national and local levels (education, awareness raising and the creation of legal frameworks, institutions and an environment that enables people to make well-informed decisions for the long term benefit of their society).

### CLIMATE CHANGE AND WATER RESOURCES MANAGEMENT, FRESHWATER QUANTITY AND QUALITY, WATER SUPPLY

### Need for information exchange and technology transfer:

- share information and research outputs within sub-regional countries (current climate trends and extremes and their impacts on water resource management, freshwater quantity and quality, and water supply, cost-benefit analyses and cross-sectoral studies – if any)
- → share the lessons learnt for the connection between water issues and land use planning, particularly in relation to flood risk management.

### Needs for additional research:

- → establish a high-quality climate and hydrological database, archival and reference data sets
- employ unified methods of data quality control, analyses of historical data for climate change detection studies, trend analyses, model development / validation
- > research of the assessment of anthropogenic influence on hydrological changes
- assessment of climate-induced changes in the hydrological cycle and cost benefit analyses of adaptation options (this
  requires major research advances in the field of climatology, hydrology, land use planning, socio-economy and multiobjective decision making under conditions of uncertainty)
- → development of the methodology for ground water vulnerability assessment
- → employment of high resolution models for climate change projections
- simulation of water balance under climate change conditions
- development of methodologies to evaluate the efficiency of measures for flood and drought management
- research on the improved design standards for each domain of intervention (irrigation, water supply, flood and droughts, erosion and sedimentation, water resource management, monitoring and water quality)
- → flooding and erosion risk mapping

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### Specific needs:

- development of a database on extremes (droughts and floods) and establishment of an early warning system for floods and droughts
- incorporate climate change adaptation measures into relevant national strategic an planning documents
- training and equipment for national / local water management organizations and operators
- → modernization / construction of irrigation systems in drought-prone areas
- → refurbishment of the existing and construction of new flood protection an drainage systems
- enlargement and modernization of the existing network of meteorological and hydrological stations, including ground water monitoring system (quality and quantity)
- > improvement of national insurance schemes against flood and drought damage
- → strengthening of the capacities of the National Hydrometeorological Services, particularly their observation networks, telecommunications, processing, forecasting and early warning systems

### 3. CLIMATE CHANGE AND AGRICULTURE AND FORESTRY

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### Need for information exchange and technology transfer:

- → dissemination of available information on the coping of agriculture and forestry with the current climatic variability
- dissemination of available information on vulnerability from extreme events and their cost evaluation, and "no regret" measures
- organization of awareness and information campaigns, training programmes for decision makers and potential users, farmers and foresters, relating to the to the environmental and socio-economic implications of climate change etc.
- → training of institutions an farmers for adopting the best available practices for climate change adaptation

### Needs for additional research:

- → research on the impact of climate change on planting dates and cultivars
- → research on the impact of climate change on crop and forest yield, pests and diseases
- research on the impact of climate change on the effects of extreme events, such as forest fires, on agriculture and forestry directly and on the market for agricultural and forestry products, etc.
- > development of a database on droughts and forest fire and risk mapping
- identification and development of adaptation measures and techniques to combat the negative effects climate change on agricultural production and forestry

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### Specific needs:

- → construction/upgrade of monitoring/warning systems to survey fires, insects, diseases and other disturbances in forestry/agriculture
- → development of monitoring tools for droughts sensitivity and other indicators of vulnerability to climate change impacts
- → incorporate climate change adaptation measures into national agricultural and forestry strategic development documents
- → development of adaptation programmes on climate change in the forestry sector
- enlargement and modernization of the existing network of meteorological/agro meteorological stations for drought and establishment of a forest fire early warning system
- → preparation of basic regional maps in GIS format (soil, vegetation, erosion, drought and forest fire risk map etc.)

### 4. CLIMATE CHANGE AND LAND USE, BUILDINGS AND TRANSPORTATION

### Need for information exchange and technology transfer:

- dissemination of available information on coping with land use, building and transportation with the current climatic variability
- organization of awareness and information campaigns, training programmes for support to policy-makers in the spatial development sphere and planners, in particular, on the environmental and socio-economic implications of climate change, requirement for new building codes, etc.
- raising awareness of the need for the protection of cultural resources, such as historical buildings, cultural monuments, and archaeological sites, from the damage caused by climate change impacts, such as flooding, erosion and storm events.

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### Needs for additional research:

- → revaluation and planning relating to the potential impacts of coastal flooding associated with sea level rise
- > evaluation of land use change under climate change conditions
- > cost calculation of potential adaptation measures and assessment of no-action costs
- → improved design standards for buildings
- → incorporation of climate change impacts info into construction, operations and maintenance of infrastructure projects (Road Strategic Plans and Standards, Project Management Manual, Design Procedure Manual, Transportation System Strategy, Plan, Surface Water Design Manual, etc.)

### Specific needs:

- → regularly updated risk maps as a planning tool for regional planning work
- → risk and vulnerability assessments at the regional level
- > incorporation of climate change adaptation measures in the spatial plan
- → incorporation of climate change adaptation measures into physical and urban plans
- → incorporation of climate change adaptation measures into strategic impact assessment

### 5. CLIMATE CHANGE AND TOURISM

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### Need for information exchange and technology transfer:

- → dissemination of available information on the coping of tourism with current climatic variability
- organization of awareness and information campaigns, training programmes for support both for policy-makers and tourism practitioners, relating to the environmental and socio-economic implications of climate change
- → introduce education and awareness programmes for all tourism stakeholders in the public and private sectors as well as for customers
- raising awareness of the need for protection of culture resources, such as historical buildings, cultural monuments, and archeological sites, from damage causes by climate change impacts, such as flooding, erosion and storm events

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### Needs for additional research:

- → evaluation and planning relating to the potential impacts of coastal flooding associated with sea level rise
- → development of efficiency standards in new tourist facilities, as well as mechanisms for energy conservation
- development of regional and local climate information services tailored to the tourism sector and promotion of their use among tourism stakeholders. Capacity building for the interpretation and application of this information
- → assessment of the suitability of the SEE climate for tourism in 2020, 2050, 2080, based on existing models and scenarios.

### 6. CLIMATE CHANGE AND COASTAL ZONES

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### Need for information exchange and technology transfer:

- → sharing of information, knowledge, experience and best practices relating to the adaptation measures in coastal zones
- → dissemination of available information on the coping off the development of coastal zones with current climatic variability
- organization of awareness and information campaigns, training programmes for the support of policy-makers and the public relating to the environmental and socio-economic implications of climate change to coastal areas
- raising awareness of the need for protection of coastal areas from damage caused by climate change impacts, such as flooding, erosion and storm events

### Needs for additional research:

- → evaluation and planning relating to the potential impacts of coastal flooding associated with sea level rise
- → evaluation of the impacts of sea level rise on ground water and water availability
- evaluation of the impacts of climate change on fisheries and other marine species
- > development and transfer of adaptation technologies

### Specific needs:

- → construction/upgrading of monitoring/warning systems to survey vulnerabilities in coastal areas
- > integrated impact scenarios for coastal areas
- > improvement of early warning and response systems

### 7. CLIMATE CHANGE AND BIODIVERSITY AND ECOSYSTEMS

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### Need for information exchange and technology transfer:

- share experience for addressing the impacts of climate change on biodiversity and for the development of strategies for adaptation to increase resilience and provide accommodation for biodiversity under climate change
- dissemination of available information on coping of biodiversity with current climatic variability
- organization of awareness and information campaigns, training programmes for support for both policy-makers and local communities relating to the impact of human-induced activities and climate change on biodiversity and ecosystems
- raising the awareness of the need to protect biodiversity and ecosystems from the damage caused by climate change impacts, such as flooding, erosion and storm events
- → distribution map of the major types of ecosystems, map of biomes and mapping of habitats and types of vegetation for the precise inventory of biodiversity

### Needs for additional research:

- research on the impact of climate change and extreme weather events on species survival
- → research on the impact of climate change on changes in the composition of habitats, including the expected increase in invasive species diseases
- → research on the impact of climate change on changes in seasonal timings that will affect dependencies and reproduction of species
- → research on the impact of climate change on land use, agriculture, water and forestry, as well as biodiversity
- → development of scientific tools to evaluate the effects of climate change on local fish and wildlife populations and habitats
- → assessment of climate change impacts on SEE wetland ecosystems
- → assessment of climate change impacts on SEE mountain ecosystems

### Specific needs:

- development and update of regional climate scenarios and projections
- > enhancement of the capacity to use tools and impact assessment models for biodiversity
- risk and vulnerability assessment for the protected arrears in the SEE region
- enlargement and modernization of the existing network for monitoring the status of biodiversity components by monitoring the phenology of bioindicator species
- enlargement and modernization of the existing network of mountain meteorological stations with vertical and slope distribution for biodiversity vulnerability assessment

### 8. CLIMATE CHANGE AND ENERGY

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### Need for information exchange and technology transfer:

- → dissemination of available information on the impact of current climatic variability on energy production and consumption (supply and demand)
- organization of awareness and information campaigns, training programmes for support to both policy and energy decision makers, and users relating to the socio-economic implications of climate change
- → raising the awareness of the need to use alternative sources of energy

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### Needs for additional research:

- → integrated research on the climate impact on water resources (precipitation, runoff) and energy production/consumption
- research on the climate change impact on the potential of renewable energy sources (wind, solar energy maps, hydro, geothermal, biofuel, etc.)
- → development of a methodology for the evaluation of the climate impact on energy production and consumption

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### Specific needs:

- development and update of high resolution regional climate scenarios and projections
- unified methodology for the evaluation of the climate impact on the energy sector, cost-benefit analysis and assessment of no-action costs, establishment of the capacities to monitor and respond to the anticipated climate change impacts at the institutional and community levels
- → incorporation of climate change adaptation measures into national energy strategic and planning documents

The South East European Climate Change Framework Action Plan for Adaptation promotes regional and international support for adaptation informed by the best science, and by environmentally sound and economically efficient climate resilient development. 39 An ad hoc working group comprising representatives and appointed experts from SEE countries provides overall coordination, while the Regional Environment Centre for Central and Eastern Europe, together with the SEE Sub-regional, Virtual Climate Change Centre, 40 is in charge of the secretariat and technical support to this group.

The South Eastern Europe Disaster Risk Mitigation and Adaptation Programme<sup>41</sup> promotes disaster risk reduction focusing on the regional dimension of risks while promoting partnerships among neighbouring countries affected by common natural hazards. It is a collaborative initiative developed by the World Bank and the United Nations International Strategy for Disaster Reduction in collaboration with a number of partners,42 and involves Albania, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Moldova, 43 Montenegro and Serbia.44 The aim of this programme is the reduction of vulnerability to natural hazards and the increase of climate change adaptation in SEE countries. The programme is in line with the Hyogo Framework and is structured around three main focus areas: hydrometeorological forecasting, data sharing and early warning; coordination of disaster mitigation, preparedness and response; and financing of disaster losses, reconstruction and recovery, and disaster risk transfer (disaster insurance).

39 For a detailed analysis of the foreseen programmes for adaptation see chapter 5 of The South East European Climate Change Framework Action Plan for Adaptation.

40 The SEE/VCCC is a network of national institutions of the participating countries: ministries, hydrometeorological services, scientific institutions, NGOs, and other stakeholders.

41 The World Bank, Global Facility for Disaster Reduction and Recovery, International Strategy for Disaster Reduction, South Eastern Europe Disaster Risk Mitigation and Adaptation Programme - Result Assessment, 2008-2009.

42 The partners in this initiative include the World Meteorological Organization (WMO), the United Nations Development Programme (UNDP), the European Union and the European Commission (EU/EC), the Swedish Civil Contingency Agency (MSB), the Disaster Preparedness and Prevention Initiative for South Eastern Europe (DPPI SEE) and the Regional Cooperation Council for South Eastern Europe (RCC SEE).

43 Moldova, although to the extent of this report is not considered as a SEE country, nevertheless it is included in the SEEDRMAP programme, whose countries are listed as indicated in the main text.

44 The World Bank and the United Nations International Strategy for Disaster Reduction are replicating the same approach in Central Asia.

A common adaptation strategy for the SEE region could also be linked to the ongoing EU Stabilisation and Association Process (SAP). Within the SAP, regional cooperation is one of the most important qualifying indicators of the countries' readiness to be accepted as Member States by the EU, pursuant to the acquis communautaire.<sup>45</sup>

In parallel with the SAP, some regional plans have been developed among SEE countries and the EU, such as:

- The Disaster Risk Reduction Initiative, which supports capacity-building of the Western Balkan countries and Turkey as well as data collection, processing and sharing and the preparation of a regional strategy to build local capacity, develop weather forecasting and early-warning systems, invest in infrastructure and disaster mitigation measures and establish a regional disaster insurance scheme<sup>46</sup>
- The Civil Military Emergency Preparedness Council for South Eastern Europe, the objective of which is to ease transboundary cooperation during emergencies, and to develop and maintain emergency responses and GIS databases for the region<sup>47</sup>
- The Belgrade SEE Climate Change Initiative adopted in 2007 in the framework of the Sixth Ministerial Conference on "Environment for Europe" for the enhancement of subregional cooperation in the climate change sector<sup>48</sup>
- The Community Civil Protection Mechanism and the Civil Protection Financial Instrument, which facilitate the preparedness and the cooperative response to major emergencies.<sup>49</sup>

 $<sup>45\,</sup>$  For further information on the Stabilisation and Association Process see annex C.

<sup>46</sup> http://www.proventionconsortium.org/?pageid=32&projectid=1.

 $<sup>47\</sup> http://ec.europa.eu/echo/civil_protection/civil/vademecum/hr/2-hr-1.html.$ 

<sup>48</sup> http://ec.europa.eu/echo/civil\_protection/civil/prote/mechanism. htm.

<sup>49</sup> http://ec.europa.eu/echo/civil\_protection/civil/prote/finance.htm.

Moreover, in order to promote the accession to the EU, SEE countries are participating in the following networks:

- The Regional Environmental Network for Accession (RENA), which is financed by the EU and aims at facilitating the accession process of SEE countries. It helps the beneficiaries in exchanging information and experience related to their preparation for accession. In particular, RENA is structured in four working groups - Strategic Investments and Planning; Climate Change; Cross Border Cooperation and Multilateral Agreements; and the Environmental Compliance and Enforcement Network for Accession. The climate change working group results will be measured by the ability of beneficiary countries to move towards compliance with the EU acquis communautaire, and to prepare their societies for the threats and possible opportunities deriving from climate change.50
- The European Network for the Implementation and Enforcement of Environmental Law (IMPEL), which is an international association of the environmental authorities of the Member States and aims at sharing information and best practices in order to enhance the implementation of EU environmental law. The European Commission is also a member of IMPEL and shares the chairmanship of meetings.
- The Environment Compliance and Enforcement Network for Accession, which is one of the RENA working groups. This is an informal network for the countries of South Eastern Europe, focusing on the enforcement of environmental laws through the exchange of best practices. In 2004, the network started to focus on pre-accession activities.

One other important cooperation initiative established in the SEE area is the Energy Community,51 which encompasses the EU and the following countries: Albania, Bulgaria, Bosnia and Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Montenegro, Romania, Serbia and Kosovo\*.52 The purpose of the Energy Community is to organize relations among the Parties, and to create a legal and economic framework in order to set up an integrated energy market allowing for cross-border energy trade and integration with the EU. Its goals include establishing a stable regulatory and market framework to attract investments in power generation; increasing the security of energy supply; improving the environmental standards in relationship with energy supply in the region; enhancing competition at the regional level; and exploiting economies of scale.

Following a top-down approach, the Energy Community Treaty provides for the creation of a single energy market, defining Parties' rights and obligations and requiring them to implement core elements of the acquis communautaire, to pledge themselves to the principle of mutual assistance and to adopt development plans bringing their energy sectors in line with EU standards.

<sup>\*</sup> This designation is without prejudice to positions on status, and is in line with UNSC 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

<sup>51</sup> http://www.energy-community.org/portal/page/portal/ENC\_HOME.

<sup>52</sup> Romania and Bulgaria joined the European Union in 2007, and have since been "participants" in the Energy Community, along with several other EU Member States. Moldova, Norway, Turkey and Ukraine obtained observer status in 2006, as well as Georgia in 2007. In 2010 and 2011 respectively, Moldova and the Ukraine joined the Energy Community as Contracting Parties.

<sup>50</sup> http://www.renanetwork.org/index.php?view=wgroup&groups=wgroups&id\_group=2.

### 4.4 THE STABILISATION AND ASSOCIATION PROCESS

All the SEE countries are involved in the Stabilisation and Association Process with a view to accession to the EU. A key step in the process is the conclusion of a Stabilisation and Association Agreement, in which all mutual obligations for increasing prosperity and economic growth are confirmed – regional free trade; the creation of regional markets for electricity and gas; the development of transport, energy and telecommunication infrastructure; environmental protection; research, technology and development; and parliamentary cooperation.<sup>53</sup>

The SAP process also addresses the development of democracy-based political systems. To this effect, the European Commission is supporting in particular the enforcement of the rule of law, good governance and judicial and administrative reforms.

The "Copenhagen criteria" are the basic conditions to which a prospective member must conform. In order to join the EU each new country has to:

- Be a stable democracy that respects human rights and the rule of law and protects minorities
- Have a functioning market economy and have the capacity to cope with competitive pressure and market forces within the Union
- Adopt common rules, standards and policies so as to comply with the full body of EU legislation, namely to adapt to the acquis communautaire.

### 4.5 NATIONAL AND REGIONAL INITIATIVES

The World Bank and the United Nations Development Programme are active in the South Eastern Europe region, funding numerous national and regional initiatives related to climate change and sustainable development. The following tables list recent initiatives by country and for the region.

<sup>53</sup> Moreover, the SAA is prepared and evaluated in accordance with other institutions and agencies, such as UN/ISDR, UNHCR, UNDP, UNICEF, WFP, WHO, FAO, WB, IAEA, NEA/OECD, WMO, IFRC, ICRC, NATO, JICA, MIC, and CEB.

<sup>54</sup> http://ec.europa.eu/enlargement/enlargement\_process/accession\_process/criteria/index\_en.htm.

### Table 7

### **ALBANIA**

### World Bank

- → 2005-2011: The objective of the Natural Resources Development Project for Albania is to establish and maintain sustainable, community-based natural resource management in about 218 communes in upland, and mountainous erosion-prone lands.
- 2005-2012: The development objective of the Integrated Coastal Zone Management and Clean-up Project for Albania is to set-up and initiate an integrated coastal zone management approach to reduce coastal degradation
- → 2008-2012: The objective of the Albania Disaster Risk Mitigation and Adaptation Project (AL-DRMAP) is to strengthen institutional capacities: (a) to reduce Albania's vulnerability to the natural and manmade hazards; and (b) to limit human, economic, and financial losses due to these disasters. There are five components to the project. The first component is the disaster risk management and preparedness.
- → 2008-2012: The development objectives of Energy Community of South East Europe Adaptable Program Loan (APL) Program - Fifth APL for Albania Dam Safety Project are to: (i) contribute to safe guarding the major hydroelectric plants of Albania; and (ii) improve their operational efficiency and enhance the stability of power supply for the regional electricity market. The project's main impact will be to prevent a possible catastrophe resulting from a dam failure.

- → 2009-2014: The UNDP/UNEP/GEF Global Solar Water Heating Market Transformation and Strengthening Initiative, aims at accelerating the market development of solar water heating in Albania with an objective to facilitate the installation of 75,000 m² of new installed collector areas over the duration of the project, an annual sale of 20,000 m² reached by the end of the project and with expected continuing growth to reach the set target of 520,000 m² of total installed SWH capacity by 2020.
- → 2007-2011: Strengthening capacities in the Western Balkans countries to address environmental problems through remediation of high priority hot spots - Albanian Component . The overall objective of the proposed project is to accelerate the achievement of environmentally sustainable development in Albania (MDG-7) by integrating the principles of sustainable development into national and local policies and programmes, observing the commitments of the Albanian Government within the EU accession process.
- → 2006-2011: Integrated Ecosystem Management in the Prespa Lakes Basin of Albania, the former Yugoslav Republic of Macedonia and Greece. To catalyse the adoption of integrated ecosystem management (IEM) in the trans-boundary Prespa Lakes Basin of the former Yugoslav Republic of Macedonia, Albania, and Greece to conserve globally significant biodiversity, mitigate pollution of the trans-boundary lakes, and provide a sustainable basis for the Basin's further social and economic development.
- → 2008-2012: Identification of adaptation response measures in the Drini Mati River Deltas. The overall development goal of this Medium Size Project is to assist Albania in establishing a mechanism by which strategies to moderate, cope with, and take advantage of the consequences of climate change are enhanced, developed, and implemented.
- → 2008-2011: Identification and prioritization of environmental hotspots in Albania. To support the Albanian government in achieving its midterm objective to rehabilitate polluted areas to meet basic safety standards through (a) intervention in "hot spot" areas and (b) elimination of toxic materials.
- → 2010-2013: EU Environment Requirements Programme. The overall objective of the "One UN Environment Pillar" is to accelerate the achievement of environmentally sustainable development in Albania (MDG-7) by integrating the principles of sustainable development into national and local policies and programmes, observing the commitments.

### **BOSNIA AND HERZEGOVINA**

### World Bank

- → 2005-2012: The overall objective of the Water Quality Protection Global Environment Facility (GEF) Project for Bosnia and Herzegovina is reduction of ground-based pollution from municipal sources into the Neretva and Bosnia rivers.
  Overall progress in project implementation was proceeding more slowly than expected.
- → 2007-2012: The objective of the Agriculture and Rural Development Project is to assist Bosnia and Herzegovina (BiH) to strengthen the capacity of its State-level and Entity-level institutions to deliver more efficient and effective agricultural services and support programs as well as to make a substantial contribution to an acceleration of BiH's eligibility to access support under the European Union Instrument for Pre Accession for Rural Development (IPARD).
- → 2008-2013: The objective of the Forests and Mountain Protected Areas Project for Bosnia and Herzegovina (BiH) is to strengthen the institutional and technical capacity for sustainable Protected Areas (PAs) and natural resource management, and expand the BiH network of forest and mountain PAs. There are three components to the project. The first component is the protected area development.
- → 2008-2014: The Second Solid Waste Management Project for Bosnia and Herzegovina aims at improving the availability, quality, environmental soundness, and financial viability of solid waste management services in participating utilities/regions. There are three components to the project.

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- → 2008-2012: KARST. The project promotes conservation and sustainable management practices for maintaining the Karst Peatlands in Livanjsko polje. Livanjsko Polje, with an area about 41,000 hectares is the most important peatland in Bosnia and Herzegovina and represents a significant part of the Cetina River catchment area, influencing water availability including in neighbouring Croatia.
- → 2009-20122: Climate Change Facility for BiH Cities. This project has supported development of a Sustainable Energy Action Plan for City of Banja Luka as a pilot exercise, which will serve as a basis for demonstrating and advocating adoption and implementation of the model in other BiH towns.
- → 2009-2013: BiH Biomass energy for employment and energy security. Bosnia and Herzegovina has significant biomass energy resources, and the rural population in particular is highly dependent on wood for energy. However, despite the large potential for biomass energy, a number of interrelated market barriers including the limited availability of financing, a lack of business models and management skills, limited information availability and low awareness combine to restrict the self-sustaining growth of this market.
- → 2009-2012: Mainstreaming Environmental Governance: Linking Local and National Action in BiH. MDG-F Environment and Climate Change Programme titled "Mainstreaming environmental governance: linking local and national action in BiH" is supported through the Millennium Development Goals Achievement Fund, funded by the Spanish government as a contribution to enhance the national ownership of the MDGs achievement, under the UN Reform framework.

### **CROATIA**

### **World Bank**

- → 2007-2012: The objective of the Inland Waters Project of Croatia is to improve water supply services, wastewater services, and flood protection measures in municipalities selected from the inland part of Croatia. The project will have two components: (1) Technical Assistance (TA) through which assistance will be provided to Hrvatske Vode (HV) and participating utilities to implement the project.
- → 2006-2012: The Croatia Agricultural Acquis Cohesion Project aims to develop sustainable systems and capacities within the Ministry of Agriculture, Forestry and Water Management (MAFWM) to ensure timely compliance with European Union acquis (legal) conditions in the rural sector.
- → 2007-2012: The objective of the Croatia Agricultural Pollution Control Project is to significantly increase the use of environmentally friendly agricultural practices by farmers in Croatia's Danube River Basin in order to reduce nutrient discharge from agricultural sources to surface and ground water bodies.
- → 2008-2014: The objectives of the Second Coastal Cities Pollution Control Project are: (i) to improve the provision of efficient and sustainable wastewater services in participating coastal municipalities; and (ii) to reduce the nutrient load entering Croatia's coastal waters from, and pilot innovative 'wastewater treatment solutions in, selected municipalities.
- → 2011-2016: The objectives of the European Union Natura 2000 Integration Project are to: (i) support park and county public institutions to implement Natura 2000 objectives in investment programs in Croatia; (ii) strengthen capacity for EU-compliant reporting and biodiversity monitoring; and (iii) introduce programs that involve a wide group of stakeholders in Natura 2000 network management.
- → 2011-2015: The development objective of the Integrated Land Administration System Project for Croatia is to modernize the land administration and management system to improve the efficiency, transparency and cost effectiveness of government services.

- → 2007-2013: Conservation and Sustainable Use of Biodiversity in the Dalmatian Coast. The COAST Project covers the Dalmatian coast, which entails four counties: the Zadar, Šibenik-Knin, Split-Dalmatia and the Dubrovnik-Neretva Counties. Within these, 4 demonstration areas were recognized and selected due to their exceptional biological value and unique landscape.
- → 2005-2013: Removing Barriers to Energy Efficiency. The EE Project aims at removing barriers for the implementation of economically feasible, energy efficient technologies and measures in residential and public sectors in Croatia, with the final goal to reduce energy consumption and the associated greenhouse gases, as well as raising public awareness about efficient use of energy.

### THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA

### World Bank

- → 2006-2012: The development objective of the Sustainable Energy Project of the former Yugoslav Republic of Macedonia is to develop a sustainable market for energy efficiency (EE) and renewable energy (RE) by supporting the development of an enabling framework, institutional capacity, and necessary financing mechanisms.
- → 2007-2012: The objective of the Agriculture Strengthening and Accession Project for the former Yugoslav Republic of Macedonia is to improve the delivery of the Borrower's assistance to the agriculture sector in a manner consistent with the European Union's (EU) pre-accession requirements. The closing date for the project will be extended from September 30, 2011 until June 30, 2012.
- → 2011-N/A: The objective of the Additional Financing for Energy Community of South East Europe Project is to support the functioning of the former Yugoslav Republic of Macedonia Power Transmission System Operator (MEPSO) in the context of the regional power market through financing investments necessary to rehabilitate and upgrade the power transmission network, increase the level of interconnection with neighboring power systems, and to strengthen the institutional capacity of AD MEPSO.

- → 2008-2011: Strengthening the Capacities of the Crisis Management Center. The main objective of this project was to support the central and local governments to strengthen the system for crisis management and ensure effective and timely response to natural disasters.
- 2009- 2011: Energy Efficiency in Building Sector. The main objective of this project is to contribute to the processes of reducing the energy consumption in residential and public buildings, regulate energy losses and greenhouse gas emissions, and increase the country's energy independence.
- → 2010-2011: The Economics of Climate Change Adaptation. The project has two main objectives. The first is to assess the capacity of national experts and institutions to estimate the economic value of climate change damages and the benefits and costs of adaptation measures. The second is to measure potential climate change damages in the country based on the existing capacities and to provide recommendations for future action. Economic estimates of climate change impacts are being prepared in sectors such as hydrology, agriculture, energy demand and forestry, along with cost and benefits of adaptation. Key stakeholders will be provided with tools for improving climate change related research, planning and decision making.
- → 2010-2012: Biodegradable waste management in Prespa. The overall objective of this project is to support the establishment of an efficient system for biodegradable waste management in the Prespa region. This will help improve the lives of the local population and ensure better environmental protection.

### **MONTENEGRO**

### **World Bank**

- 2003-2012: The main objective of the Environmentally Sensitive Tourist Areas Project is to create ecological and commercially sustainable solid waste collection and disposal services in Montenegro coastal municipalities, needed to maintain a clean, and environmentally attractive coastal area.
- → 2007-2013: The objective of the Energy Community of South East Europe Third Adaptable Program Loan (ECSEE APL3) Project in Montenegro is to improve the efficiency and reliability of the power system in Montenegro, through better supply security and closer integration into the regional markets.
- → 2008-2012: The development objective of the Montenegro Energy Efficiency (MEE) Project is to improve energy efficiency performance in targeted public sector buildings in order to provide a demonstrated basis for development of a sustainable energy efficiency improvement programme in the public sector in Montenegro.
- → 2009-2014: The development objective of the Institutional Development and Agriculture Strengthening Project for Montenegro is to improve the delivery of government assistance for sustainable agriculture and rural development in a manner consistent with the European Union's (EU's) pre-accession requirements.
- → 2010-N/A: The objective of the Additional Financing for Montenegro Environmentally Sensitive Tourist Areas Project is to create ecological and commercially sustainable solid waste collection and disposal services in Montenegro coastal municipalities, needed to maintain a clean, environmentally attractive coastal area.

- → 2004-N/A: Environmental GIS. The project focuses on implementing consistent systems for creating and sharing basic data in the key areas of forestry, biodiversity and spatial planning. Information systems supporting these sectors that are developed in a progressive manner have a greater prospect of being successful.
- 2007-2012: Spatial Planning Support Project (SPSP). Integrating sustainable development principles into processes of spatial planning and legalization of informal settlements and improving enforcement of the legislation on Planning and Construction, thereby establishing a clear link between economic growth, poverty reduction and environmental sustainability.
- → 2007-2011: Strengthening capacities in the Western Balkan countries to address environmental problems through remediation of high priority hotspots: Lead and Zinc Tailing Mine Impoundment (TMI) in Mojkovac. The remediation of the Led and Zinc Tailing Mine Impound in Mojkovac will remove the main barrier to investment in the Municipality of Mojkovac. In parallel to that process, UNDP in cooperation with the Municipality of Mojkovac will work establishing and implementing the strategy for sustainable development that will focus on economic valorization of protected areas, organic agriculture, nature based tourism, capacity building for municipal officials for implementation of the environmental management legislation, and support for small and medium local businesses.
- 2007-2011: Global Environmental Facility and Energy Portfolio. The project objectives are to assist the Government of Montenegro in complying with the Rio Conventions through focus on environmental protection, development of small hydro power, implementation of energy efficiency measures, and diversification of renewable sources of energy.

### **SERBIA**

### World Bank

- → 2005-2011: The Serbia and Montenegro component of the Energy Community of South East Europe Program Project (ECSEE APL3-Serbia) provides investment support and technical assistance for Serbia, and complements donor assistance that creates and develops the capacity of the Transmission, System, and Market Operator and the regulatory agency --obligations Serbia has to fulfill under the Athens Memorandum.
- → 2005-2013: The development objectives of the Additional Financing for the Irrigation and Drainage Rehabilitation Project are to: a) improve the capacity for increased agricultural yields through support to high priority rehabilitation of drainage and irrigation infrastructure; b) reduce the risk of damage from flooding to land, crops, property, infrastructure as well as reducing risk of life loss from flooding in project areas; and c) improve water resources management and strengthen the associated water resource management institutions and policies.
- → 2007-2011: The Transitional Agriculture Reform Project development objective is to enhance the competitiveness of Serbian agriculture. The global environmental objective is to conserve the globally important ecosystem in the Stara Planina mountainous area.

- → 2007-2011: Biodiversity Strategy, Action Plan and National Report. The project enables the State of Serbia to prepare the first Biodiversity Strategy and Action Plan (BSAP), through two Republic Strategies, and the first National Report as the initial step to follow up on the national commitments to the Convention of Biodiversity ratified in 2002.
- → 2010-2014: Ensuring financial sustainability of the protected area system. The objective of the project is to improve the financial sustainability of Serbia's protected area system.
- → 2010-2014: Support to Sustainable Transport in the City of Belgrade. The goal of this project is to reduce national greenhouse gas (GHG) emissions in Serbia by meeting the project objective of improving access and sustainable transport modes in Belgrade.
- 2011-2013. Vlasina Lake Ecotourism Promotion and Environment Protection. The project will support the municipality of Surdulica to pursue its strategic vision of ecotourism development through employment generation and preservation of the environmental and cultural heritage in the protected area of the Vlasina Lake.

### **KOSOVO\***

### **World Bank**

- → 2006-2011: The Kosovo\* Energy Sector Clean-Up and Land Reclamation Project aims to: (a) address environmental legacy issues related to open dumping of ashes on land; (b) enable the Kosovo\* Energy Corporation (KEK) to free land for community development purposes currently taken by overburden materials and enable KEK to remove Kosovo\* A ash dump; and(c) build capacity in KEK for continued clean-up and environmentally good practice mining operations.
- → 2011-2017: Agriculture and rural development. The project aims to assist the Republic of Kosovo\* to promote competitiveness and growth in the livestock and horticulture sub-sectors through the implementation of selected measures of its agricultural strategy and institutional development.

- → 2011-N/A: Support the Ministry of Environment and Spatial Planning (MESP) for Environment and Climate Change. Facilitate MESP to establish mechanisms for coordination of environment agenda, conduct public awareness activities highlighting environmental issues as major agenda and initiation of at least one regional cooperation project related to environment and climate change.
- → 2011- N/A: Conservation of Biodiversity and Sustainable Land Use Management in Dragash/Dragaš I) conservation of biodiversity II) the re-establishment and development of improved local businesses based on sustainable land use III) environmentally sound energy services; and iv) improved capacities and empowerment of local governments, community leaders and women to promote development.

<sup>\*</sup> This designation is without prejudice to positions on status, and is in line with UNSC 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

### SOUTH EASTERN EUROPE REGION

### World Bank

- → 2008-2013: The development and global environmental objective of the Neretva and Trebisnjica River Basin Management Project for Europe and Central Asia is to provide mechanisms for the efficient and equitable water allocation amongst the users of the Neretva and Trebisnjica river basin (NTRB) at the transboundary level and for enhancing the basin ecosystems and biodiversity through improved water resources management.
- → 2011-2015: The objective of the South East Europe and Caucasus Catastrophe Risk Insurance Facility Project for Europe and Central Asia is to help increase access of homeowners, farmers, the enterprise sector, and government agencies to financial protection from losses caused by climate change and geological hazards.
- → 2011-N/A: The development objective for the South East Europe and Caucasus Catastrophe Risk Insurance Facility Project for Europe and Central Asia is to enable Europa Re, a catastrophe and weather-risk re-insurance facility, to develop new weather risk insurance and reinsurance products, automate insurance underwriting, pricing and claims settlement processes for such products, and increase public awareness of weather risk in participating countries.

- → Regional demonstration programme around demand driven projects in nine locations in the Western Balkans (Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro, Serbia and UN Administered Province of Kosovo\*) suffering from the legacy of polluting industries and requiring industrial renewal, environmental cleanup and new economic initiative. The aim of such projects is to achieve improvement of environmental situation and quality of life for citizens living in and around polluted areas through least cost measures, improved local and national policy dialogue and supply of domestic professional services in the environmental management sector. While the main focus will be the physical works needed to mitigate the ecological problems, institutional strengthening and capacity building will be an important subject running throughout the programme.
- → 2011- N/A: Conservation of Biodiversity and Sustainable Land Use Management in Dragash/Dragaš I) conservation of biodiversity II) the re-establishment and development of improved local businesses based on sustainable land use III) environmentally sound energy services; and iv) improved capacities and empowerment of local governments, community leaders and women to promote development.