Children and disasters:
Building resilience through education

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Preface

The present report is the outcome of a collaborative initiative between the United Nations Children's Fund (UNICEF) Regional Office for Central and Eastern Europe and Commonwealth of Independent States (CEECIS), and the United Nations International Strategy for Disaster Reduction (UNISDR) offices for Europe and Central Asia.

The CEECIS region has a history of major disasters caused by natural hazards, including earthquakes, floods and extreme temperatures. These frequently devastating events affect all of the populations of the countries involved, with severe social and economic consequences for the most vulnerable people, children, women and elderly. However, the impact of these natural hazards could be drastically reduced if appropriate disaster risk reduction strategies at regional, national and community level were put in place.

The aim of this report is to further contribute to the process of building resilience of nations and communities in the CEECIS region, providing an overview of the national situation vis-a-vis disaster risk reduction strategies.

Knowledge and education are recognized as key components of disaster risk management and were made a priority area in the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters. Goal 2 of the Millennium Development Goals discusses the importance of primary education in lowering poverty, while Priority 3 of the HFA focuses on increasing resilience and building a culture of safety and resilience at all levels through the use of knowledge, innovation and education.

Within this framework, and as part of the broader International Strategy for Disaster Reduction (ISDR) partnership in disaster risk reduction (DRR), UNISDR Europe and Central Asia offices and UNICEF Central and Eastern Europe and Commonwealth of Independent States regional office have agreed to join forces to support progress in this HFA priority area in the regions of South Eastern Europe and the Commonwealth of Independent States. This report was prepared in support of that initiative. The objectives are:

- to provide a brief overview of major hazards and disaster risk in the CEECIS region;
- to conduct a review of national disaster risk reduction structures and key legislation;
- to conduct a review of current disaster risk reduction activities related to education undertaken by national agencies and activities by UNISDR and UNICEF[1];
- to conduct a review of on-going UNICEF country programmes and UNISDR activities to facilitate the effective implementation of disaster risk reduction initiatives, strategies and programmes.

This report builds on the Hyogo Framework for Action, which is promoted and supported by UNISDR and UNICEF. It focuses on the importance of education in disaster prevention, as advanced in the 2006-2007 World Campaign on Disaster Reduction under the slogan Disaster Risk Reduction Begins at School. It provides general information on national education and disaster risk reduction activities and makes recommendations on how to support and build on local and national initiatives to reduce the risk of disasters through education. The report is aimed at government representatives, United Nations and other actors, and practitioners operating in the context of education, disaster risk and sustainable development.

1 Without being exhaustive or comprehensive, reference is also made to ongoing programmes related to education and DRR undertaken by UNCT.

Executive Summary

This report analyses disaster risk reduction in the context of education at country level. It reviews existing documents, including country-level reports and HFA National Reports, to develop an understanding of current national economic environments, legislation, awareness, capacity and institutional mechanisms related to disaster risk reduction and disaster management. Various project documents prepared at country, regional and global level were also reviewed, as were documents prepared by United Nations agencies, and national and international organizations working in the area. Data sources include the Centre for Research on the Epidemiology of Disasters (CRED) Emergency Events Database (EM-DAT).

Most countries in the region[2] covered by the report have undergone major political, social, economic and administrative change and this is reflected in the legislative and institutional aspects of disaster risk management. In many countries legislation is in the process of development and adoption and some structures are yet to be established. In some cases there is a shift from military to civil administration in disaster management structures, while in many countries even though much new disaster risk management legislation has been passed the laws are yet to be fully implemented or enforced. Furthermore, many countries of the region lack comprehensive national disaster management plans or clear definitions of the roles and responsibilities of different departments. Overall, there is a need to shift the focus from response to disaster preparedness and prevention. Incorporating disaster risk reduction into educational activities at the policy and operational levels will encourage this shift.

However, when consideration moves to the level of inclusion of disaster risk reduction in education sectors a similarly diversified picture emerges. In some countries the government has already included elements of disaster risk reduction in the formal education system, while in others certain activities are undertaken by national and international organizations. Nonetheless, despite some promising signs of the adoption of elements of disaster risk reduction significant capacity gaps remain and several countries would undoubtedly benefit from further encouragement and support in this area.

Integration of disaster risk reduction into education is a long-term process which aims to ensure that knowledge about hazards, risks and appropriate safety behaviour is deeply embedded within communities, with children as “agents of change”. To achieve this there is a need to promote knowledge of disaster management and behavioural change with regard to disaster risks through both formal and non-formal education, while at the same time reinforcing partnerships and encouraging cooperation on disaster risk reduction policies and practices.

The report concludes with some proposals on potential areas of cooperation and collaboration, exploring potential synergies between stakeholders and building on results already achieved. After an overview of risk vulnerability, existing legal and institutional structures and activities undertaken by national authorities, as well as a consideration of on-going UNICEF programmes and UNISDR’s presence, a series of recommendations are presented on how successes in the field of education for disaster risk reduction already achieved can be further consolidated.

2 The reference ‘region’ for Central Eastern Europe and the Commonwealth of Independent States refers to the geographical regional coverage used by UNICEF. In the context of UNISDR, it refers more to South Eastern Europe (SEE) and Central Asia.

Acknowledgements

Children and Disasters: Building Resilience through education was commissioned jointly by the UNICEF Regional Office for CEECIS and UNISDR offices for Europe and Central Asia. The report has benefited from the contributions of many individuals across the region and therefore appreciation goes to each and every one of them.

Acknowledgements go, first and foremost, to HFA Focal Points and National Platform Coordinators[3] who took time to revise and provide information for the report, and to the National HFA Coordinators and the UNICEF office representatives in the region for their time and expertise in reviewing the relevant chapters and providing invaluable information and inputs through the online consultations.

The author would like to gratefully acknowledge the organizers and participants of both events attended - the Community-Based Disaster Risk Management Workshop, based on the Hyogo Framework for Action, in Bishkek, Kyrgyzstan; and the South Eastern Europe Civil Military Emergency Planning Council's Annual Meeting and Working Groups Workshop on Civil-Military Emergency Planning and Preparedness Development in the SEE Region, in Sarajevo, Bosnia and Herzegovina - for their flexibility to accommodate the last-minute registrations and for their understanding and cooperation during meetings and interviews which were held well after regular sessions[4].

The list of interlocutors includes:

At the Community-Based Disaster Risk Management Workshop:

UNISDR Central Asia office: Ms. Goulsara Pulatova (Senior Advisor) and Mr. Abdurahim Muhidov (Project Coordinator, HFA); Swiss Agency for Development and Cooperation: Mr. Matthias Anderegg (Programme Officer, Disaster Reduction Programme in Central Asia) and Ms. Asel Omoeva (National Programme Officer, Kyrgyzstan); Focus Humanitarian Assistance: Mr. Malik Ajani, Jr. (Programme Officer, Tajikistan); Central Asian Institute of Applied Geosciences: Dr. Bolot Moldobekov (Co-Director), Ms. Lira Joldubaeva (Senior Scientific Adviser) and Ms. Aykanysh Omuralieva (Interpreter, Kyrgyzstan); NGO Man and Element: Ms. Svetlana Tuleyeva (Director, Kazakhstan); UNICEF Tajikistan: Mr. Salohiddin Shamsiddinov (Programme Assistant, Child Protection, Tajikistan); Committee of Emergency Situations and Civil Defence of Tajikistan: Mr. Kholiknazarov Sultonnazar and Mr. Jomiev Mahmadali; Act Central Asia: Ms. Gulbarchin Suyunova (Representative, Kyrgyzstan); UNICEF Kyrgyzstan: Mr. Tim Schaffter (Representative); United Nations Resident Coordinator Unit: Ms. Aynura Alymbekova (United Nations Disaster Reduction Adviser, Kyrgyzstan).

At the South-Eastern Europe Civil Military Emergency Planning Council's Annual Meeting and Working Groups Workshop on Civil-Military Emergency Planning and Preparedness Development in the SEE Region:

Ministry of Security of Bosnia and Herzegovina: Mr. Samir Agic (Assistant Minister and Head of Civil Protection Sector) and Mr. Milivoje Popovic (Head of Department for International Cooperation and Coordination within the Civil Protection Sector); Ministry of Internal Affairs of Montenegro: Mr. Zoran Begovic (Assistant Minister and Head of Emergency Situations and Civil Protection Department); National Protection and Rescue Directorate of Croatia: Ms. Arabela Vahtaric (Head of International Cooperation Division); Ministry of Interior, General Directorate for Civil Emergency of Albania: Mr. Bujar Kapllani (Chief of Civil Protection Coordination Sector) and Mr. Salih

3 An HFA focal point is defined as the "person officially designated by the State as the primary contact for the implementation of the HFA" (UNISDR. Hyogo Framework for Action. Available at: http://www.eird. org/wikien/index.php/Hyogo_Framework_for_Action_(HFA).
4 Note -The list below includes titles and names as per the missions in 2009-2010.

Kelmendi (Director of Planning and Coordination CE); Ministry of Defence, Administration for Civil Protection and Disaster Relief of Slovenia: Mr. Branko Dervodel (Deputy Director General) and Ms. Natasa Horvat (Senior Advisor for International Relations); Prime Ministry, General Directorate of Emergency Management of Turkey: Mr. Hasan Ipek (General Director) and Mr. Mehmet Bayazit, Mr. Fatih Akman and Mr. Adil Ciftci (Assistant Prime Ministry Experts); Macedonian Protection and Rescue Directorate: Mr. Kosta Jovcevski (Director) and Ms. Duska Celeska (Chief of Staff); Macedonian Crisis Management Centre: Mr. Urim Vejseli (Head of Department for NATO and International Cooperation); Ministry of Emergencies and Affairs of Population Protection from Consequences of Chernobyl Catastrophe of Ukraine: Mr. Igor Kusliy (Deputy of Director); Ministry of State Policy for Disasters and Accidents of Bulgaria: Ms. Antoaneta Boycheva (Head of International Cooperation, NATO and EU Department); and Ministry of Interior and Administrative Reform, General Inspectorate for Emergency Situations: Brigadier-General Liviu-Viorel Nemes (General Inspector's First Deputy) and Mr. Vlad Petre (Expert Officer).

UNICEF and UNISDR wish to thank Mr. Sergej Anagnosti, who was the author of the initial report that formed the basis for this publication.

We would also like to acknowledge the dedication and commitment of Mr. Asim Rehman (UNICEF RO CEECIS) and Stefanie Dannenmann-Di Palma (UNISDR Europe) in coordinating the design, review and finalization of the report.

Special thanks go to Ms. Goulsara Pulatova and Ms. Erin Tanner (UNICEF RO CEECIS), Mr. Ranjith George (UNISDR Europe Consultant), Mr. Demetrio Innocenti (UNISDR Europe) and Mr. Abdurahim Muhidov (UNISDR Central Asia) for their significant contributions to the report, as well as to Ms. Lely Djuhari (UNICEF RO CEECIS) for her guidance and support in the design and layout of the report.

A sincere appreciation is expressed to Deputy Regional Director Ms. Kirsi Madi, Education Advisor Mr. Philippe Testot-Ferry, Emergency Chief Ms. Andrea James and Communication Chief Mr. John Budd from UNICEF RO CEECIS as well as Head of the UNISDR Regional Office for Europe Ms. Paola Albrito. Without their guidance and support, this report may not have been possible.

Financial contribution was also given by Global Facility for Disaster Reduction and Recovery. Last but not least, much appreciation goes to the Government of the Netherlands for financial assistance through its global grant to UNICEF for the Education in Emergencies and Post-Crisis Transition programme, which supported the preparation of the initial report.

Every reasonable effort has been made to verify the accuracy of data and of all the information presented in this report. The opinions expressed in this publication are those of the contributing authors and do not necessarily reflect the policies or the views of UNICEF or UNISDR.

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Abbrevations

ABSD	Area-Based Social Development
ADRC	Asian Disaster Reduction Centre
AFAD	Prime Ministry Disaster and Emergency Management Presidency
AL-DRMAP	Albania Disaster Risk Mitigation and Adaptation Project
ARCS	Armenian Red Cross Society
ARNAP	Armenian National Platform
ARS	Armenian Rescue Service
AzRC	Azerbaijan Red Crescent Society
BiH	Bosnia and Herzegovina
CAC DRMI	Central Asia and Caucasus Disaster Risk Management Initiative
CADRI	Capacity for Disaster Reduction Initiative
CAIAG	Central Asian Institute of Applied Geosciences
CCA/UNDAF	Common Country Assessment/UN Development Assistance Framework
CEE	Central and Eastern Europe
CEP	Civil-Emergency Planning
CIS	Commonwealth of Independent States
CMEP SEE	Civil Military Emergency Planning Council for South Eastern Europe
CMT	Centroid-Moment-Tensor
CoE	Council of Europe
CoES	Committee of Emergency Situations
CORE	Cooperation for Rehabilitation Programme
CPAP	Country Programme Action Plan
CPESS	Civil Protection and Emergency Situations Service
CRED	Centre for Research on the Epidemiology of Disasters
DFID	Department for International Development
DIPECHO	Disaster Preparedness ECHO
DKKV	German Committee for Disaster Reduction
DMI	State Meteorological Service
DMT	Disaster Management Team
DPPI	Disaster Preparedness and Prevention Initiative
DRMP	Disaster Risk Management Project
DRR	Disaster Risk Reduction
DSI	Directorate General of State Hydraulic Works
EADRCC	Euro-Atlantic Disaster Response Coordination Centre
ECHO	European Commission Humanitarian Aid department
ECO	Economic Cooperation Organization
EFDRR	European Forum for Disaster Risk Reduction
EIEI	Directorate General of Electrical Power Resources Survey and Development Administration
EMD	Emergency Management Department
EM-DAT	Global Database on Disasters
EMERCOM	Emergencies and Elimination of Consequences of Natural Disasters
ENDP	Education for Natural Disaster Preparedness
ESSC	Emergency Situation State Council
EU	European Union
EU-MIC	European Union Monitoring and Information Centre
EUR-OPA	European and Mediterranean Major Hazards Agreement
FAO	Food and Agriculture Organization (United Nations)
FTI	Fast Track Initiative
FYR of Macedonia	The former Yugoslav Republic of Macedonia

GDP	Gross Domestic Product
GEF SGP	Global Environment Facility's Small Grants Program
GFDRR	Global Facility for Disaster Risk Reduction
GIES	General Inspectorate for Emergency Situations
GIS	Geographic Information Systems
GNI	Gross National Income
GSHAP	Global Seismic Hazard Assessment Programme
HFA	Hyogo Framework for Action
IAEA	International Atomic Energy Agency
IEMS	Integrated Emergency Management System
IFRC	International Federation of Red Cross and Red Crescent Societies
IPAP	Individual Partnership Action Plan
ISDR	International Strategy for Disaster Reduction
ITU	Istanbul Technical University
MCS	Mercalli-Cancani-Sieberg scale
MDG	Millenium Development Goal
MERY	Ministry of Education, Research and Youth
MES	Ministry of Emergency Situations
MEST	Ministry of Education, Science and Technology
METU	Middle East Technical University
MEY	Ministry of Education and Youth
MoE	Ministry of Education
MoES	Ministry of Emergency Situations and Civil Defence
MoU	Memorandum of Understanding
NATO	North-Atlantic Treaty Organization
NBC	Nuclear, Biological, Chemical
NGO	Non-Governmental Organization
NP	National Platform
NPRD	National Protection and Rescue Directorate
NSC	National Security Council
OCHA	Office for the Coordination of Humanitarian Affairs (United Nations)
OFDA	Office of US Foreign Disaster Assistance
PMP	Prevention, Mitigation, and Preparedness
PPES	Preparedness, Planning and Economic Security
PPRD	Programme on Prevention, Preparedness and Response to Natural and Man-made Disasters
REACT	Rapid Emergency Assessment and Coordination Team
RCSK	Red Crescent Society of Kyrgyzstan
RCST	Red Crescent Society of Turkmenistan
RSES	Prevention and Elimination of Emergency Situations
SDC	Swiss Agency for Development and Cooperation
SEECP	South East European Cooperation Process
SEEDRMAP	South Eastern Europe Disaster Risk Management and Adaptation Program
SEEDRMI	South Eastern Europe Disaster Risk Management Initiative
SEM	Sector for Emergency Management
SEESIM	Southeastern Europe Simulation
SPO	State Planning Organization
SSPR	State System for Prevention of and Response to emergency situations
TEMAD	Turkey Emergency Management General Directorate

TESIS	Advanced Technologies and Systems for the Knowledge-based Information Society
UN	United Nations
UNCT	United Nations Country Team
UNDAC	United Nations Disaster Assessment and Coordination
UNDAF	United Nations Development Assistance Framework
UNDP	United Nation Development Programme
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNHCR	The Office of the United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNIFEM	United Nations Development Fund for Women
UNISDR	United Nations International Strategy for Disaster Reduction Secretariat
UNRCCA	United Nations Regional Centre for Preventive Diplomacy for Central Asia
US	United States
USAEC	Unique System for Alarming and Emergency Coordination
USAID	United States Agency for International Development
UN-SPIDER	United Nations Platform for Space-based Information for Disaster Management and Emergency Response
WB	World Bank
WHO	World Health Organization
WMO	World Meteorological Organization

Background

The CEECIS region is highly diversified. From a geo-political standpoint it connects the European Union (EU) - with Romania and Bulgaria as the most recent EU members - through the Caucasus and Central Asia to China; and from Turkey to Russia. In terms of socio-economic indicators the diversity is pronounced. It ranges from Tajikistan, which has a GNI per capita of US$600; through Russia, which is a member of the Group of Eight leading industrialized nations; to Croatia and Slovenia, with GNI per capita of US$13,570 and US$24,010 respectively[5].

However, despite their size and diversity many countries of the CEECIS region share various common characteristics, including geophysical, social and political contexts. In terms of natural hazards, all countries of the region are vulnerable to flooding and almost all are at risk from earthquakes, sometimes – such as the 1988 Spitak earthquake in Armenia which killed 25,000 people - of devastating proportions.

In response to the rising number of disasters and the increased commitment of nations and communities to implement disaster risk reduction activities in the context of the Hyogo Framework for Action, UNISDR coordinates international efforts in disaster risk reduction and provides guidance for the implementation of the HFA, and also monitors its implementation and reports regularly on progress; advocates for greater investment in disaster risk reduction actions to protect people's lives and assets; campaigns to build global awareness of disaster risk reduction benefits and empower people to reduce community vulnerabilities to hazard impacts; and informs and connects people by providing services and practical tools - such as the disaster risk reduction community website PreventionWeb, publications on good practices, country profiles and policy advice.

Countries in the region are committed to increasing knowledge and education towards risk reduction, as evidenced by the increased number of high-level events in the region covering risk reduction issues; increased activities on resilience; the development of reports on achievements and challenges in moving forward the subject (HFA reports); as well as the adaptation of planned activities and new legislation. Countries with a nominated HFA official and established National Platform (national coordinating mechanisms towards risk reduction) are particularly engaged in this topic. There are a total of seven National Platforms[6] in the CEECIS region, while several other countries have informed UNISDR that they are in the process of developing them.

One of the most important lessons to emerge from the series of devastating disasters worldwide over the past decade is that education and knowledge have the power to save lives. In Let Our Children Teach Us![7] it was estimated that roughly 1 billion children aged 1-14 live in countries with high seismic risk, which puts several hundred million children at risk while they are attending schools. In the CEECIS region, where earthquake hazards are present in almost all countries, the proportion of children at risk is very high. Furthermore, schools are equally vulnerable to damage or destruction during natural hazards such as strong winds, landslides and floods.

Education and knowledge for disaster risk reduction appear as the third priority in the HFA, fostering the "use of knowledge, innovation and education to build a culture of safety and resilience at all levels", the overall target being to contribute to a drastic shift in mentalities and perceptions as well as a behavioural change towards a more proactive preventative approach to disasters. Children, as "tomorrow's leaders" and key "agents for

5 From World Bank key development data and statistics; all figures correct as of 2008.
6 The seven Countries with National Platforms in the CEECIS region are Armenia, Bulgaria, Croatia, Kazakhstan, the former Yugoslav Republic of Macedonia, Turkey and Russia.
7 Let Our Children Teach Us! A Review of the Role of Education and Knowledge in Disaster Risk Reduction, prepared by Ben Wisner on behalf of the ISDR system-Thematic Cluster/Platform on Knowledge and Education (Supported by: Action Aid, Council of Europe, UNISDR, DFID, UNESCO, and ProVention Consortium Secretariat).

change", are recognized as the primary targets of these efforts.

Through the 2006 - 2007 UNISDR World Campaign on Disaster Reduction the theme Disaster Risk Reduction Begins at School was developed to engage and mobilize key stakeholders at the local, national, regional and international levels in promoting the integration of disaster risk reduction as part of school curricula and in facilitating the development of disaster-resilient schools and retrofitting of school buildings to withstand natural hazards.

The 2011 Global Assessment Report on Disaster Risk Reduction (GAR11) [8] points out that disasters affect children's medium-term development when schools are destroyed or damaged and household assets and livelihood assets are lost. When children are forced out of school, this can cause infant malnutrition which can further lead to poor educational achievement and greater propensity to disease.

Education for disaster risk reduction also contributes to world efforts in achieving Target 2 of the Millennium Development Goals on Achieving Universal Primary Education, as well as the goals of the United Nations Decade of Education for Sustainable Development (2005 - 2014) led by the United Nations Educational, Scientific and Cultural Organization (UNESCO), which aims at the development of the concept of Education for Natural Disaster Preparedness (ENDP) and the overall integration of ENDP into sustainable development strategies.

The state of development and advancement in integrating disaster risk reduction within school curricula of course varies according to the level of development, capacities and political commitment granted by governments to the issue of education. The number of activities and programmes and the amount of educational material on disaster risk reduction is substantial in the CEE and CIS region and many lessons learned can be drawn from each country's experience in this area. Experience in knowledge-sharing is further embedded in the city campaign promoted by UNISDR: My City is Getting Ready. Many cities in the region have embedded the campaign. Presently, 25 cities form part of the campaign, including 18 cities from Serbia, two each from Armenia and Turkey and one each from Tajikistan, Kosovo[9] and Croatia.[10]

Since 1990, UNICEF has made major contributions in helping countries to achieve the goal of education for all. In the CEECIS region, UNICEF works towards increasing children's and adolescents' access to education, improving the quality of education, expanding access to early-childhood education and promoting emergency preparedness in the education sector. Advocacy for the right of all children to education in emergencies is at the core of UNICEF's work in education, as well as measures to restore learning opportunities to children affected by emergencies such as disasters caused by natural hazards or technological accidents.

Increasingly, UNICEF is supporting initiatives to predict and prevent disasters and be better prepared should they occur. This new emphasis was spurred in part by the devastation and loss of life caused by the Indian Ocean earthquake and tsunami in December 2004 as well as the potential disaster posed by avian and pandemic influenza. UNICEF recognises the key role that education can play in reducing the risks posed by disasters and is helping to build capacities by providing education and training to help with prediction, prevention and preparedness for emergencies. Through this training children are learning what disasters are, when and where they are most likely to occur, and also what to do before, during and after they strike.

While it is clear that education has a pivotal role to play in relief, rehabilitation and reconstruction, the report finds that gaps remain in the focus on and support for education in disaster risk reduction, prevention and mitigation. It is therefore critical to embark on programmes and initiatives that would begin to address these shortcomings.

8 http://www.preventionweb.net/english/hyogo/gar/2011/en/home/index.html
9 Kosovo under UN SCR 1244/99.
10 To find out more on the campaign visit http://www.unisdr.org/english/campaigns/campaign2010-2011/

Background

Children and disasters: Building resilience through education

Methodology

The information contained in this report is based on a variety of sources and is aimed at providing an overall picture of education related to disaster risk reduction issues in the region, and at sharing a few good practices which can be used to determine the main recommendations of future activities. Meetings were held and direct communication was established with key representatives of national and international organizations and authorities active in disaster risk reduction and disaster management, and other United Nations agencies. Such first-hand information was supplemented by a desk review of existing studies by international agencies, governments, governmental and non-governmental organizations, and data from a wide spectrum of sources.

Data on disasters due to natural hazards was principally taken from EM-DAT, and complemented with data from other sources. Historic data on the number of disaster events, including number of people killed and affected and economic losses incurred, was also assessed from 1980 to 2010, and information examined from global databases including the Disaster Risk Index tool of the United Nations Development Programme (UNDP), and World Bank statistics. Information was provided by key representatives of national disaster management authorities, and national and international organizations active in disaster risk reduction. United Nations agencies were consulted.

In addition to those provided by UNICEF and UNISDR, numerous other documents, including country programme documents and Asian Disaster Reduction Centre (ADRC) country reports, were examined. The following publications launched by the World Bank and UNISDR were consulted extensively: *Risk Assessment for South Eastern Europe: Desk Study Review,* developed within the context of the South Eastern Europe Disaster Risk Mitigation and Adaptation Initiative (SEEDRMI)[11]; *Risk Assessment for Central Asia and Caucasus: Desk Study Review*, developed within the context of the Central Asia and Caucasus Disaster Risk Management Initiative (CAC DRMI); and the *Structure, Role and Mandate of Civil Protection in Disaster Risk Reduction for South Eastern Europe*, developed within the context of the South Eastern Europe Disaster Risk Mitigation and Adaptation Programme (SEEDRMAP).

It should be noted that given the limited availability of information the activities which are included should be considered as representative rather than comprehensive. Due to the vast number of international organizations and regional actors, this report covers only the UNICEF and UNISDR engagement in the CEECIS region. A more comprehensive study was beyond the scope of this report.

Nevertheless, given the extent of the range of material collated and the number of key representatives contacted, the report provides a solid assessment of exposure to disaster risk at country and regional level, including an examination of current legislation and institutional mechanisms towards disaster prevention and preparedness, and a review of disaster risk reduction activities undertaken in targeted countries and the role of education in this.

The report provides for each country brief presentations of its disaster risks – hazards and vulnerabilities - and institutional framework for disaster management. Disaster risk reduction activities related to education and those undertaken by national authorities and international and national organizations have also been portrayed and presented.

The presence and areas of engagement of other United Nations agencies and national and international partners has been viewed to explore possible areas of col-

11 In the CEE and CIS region, Moldova, Kyrgyzstan and Tajikistan are FTI recipient countries.

laboration, and to avoid the risk of duplication and overlapping.

The conclusions and recommendations are the result of a careful analysis of information collected and interviews held with stakeholders, both governmental and non-governmental.

Data Issues and Terminology Used

Before progressing to the country overviews, certain data issues and terminology require clarification.

Disasters due to natural hazards are time- and space-reference events. Historic data plays a crucial role for hazard and vulnerability assessment and analyzing historic events and losses helps in understanding the risks faced by a country or region. The vulnerability of a country to disasters is often measured in terms of the total number of events, the number of people killed or affected, and the economic losses. But it should be noted that the impact diffusion of an event often extends far beyond the visible physical damage.

The report has used the standard terminology developed by UNISDR[12].

The report uses data from a variety of sources: national governments, humanitarian and disaster relief agencies, specialist agencies, the media and insurance company reports. It also uses data published in the EM-DAT database for information on disasters due to natural hazards. However, it should be noted that in order for a disaster to be entered into the EM-DAT database at least one of the following criteria has to be fulfilled:

- 10 or more people reported killed;
- 100 people reported affected;
- declaration of a state of emergency;
  or
- call for international assistance.

It should also be noted that disasters such as earthquakes often have long return periods and data representing such events does not necessarily appear in the data window covered by EM-DAT. In such cases other sources of information have been used wherever possible to assess the impacts of such disasters. Supplementary sources have also been referred to in several country profiles for economic loss data, which is scanty in EM-DAT.

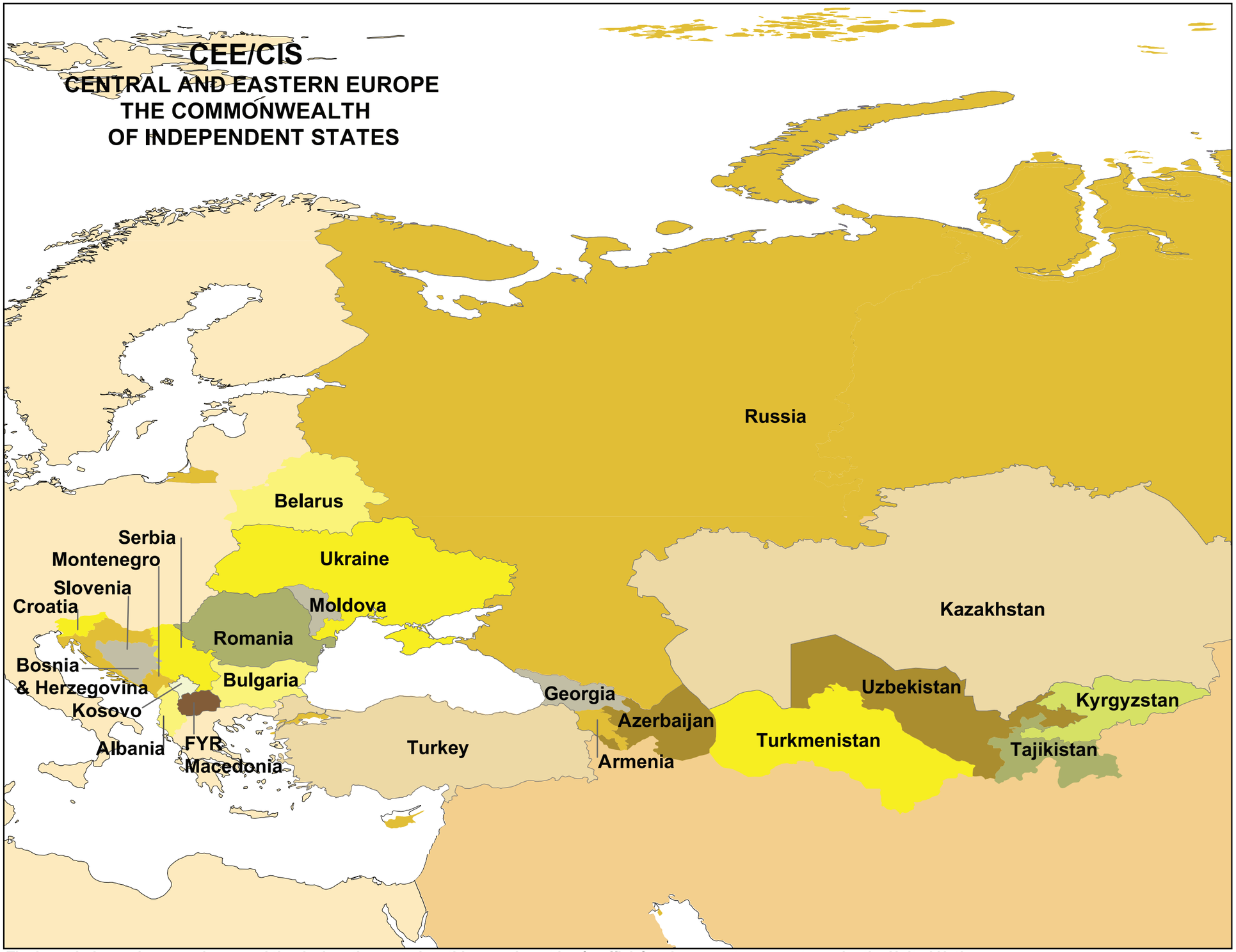
The majority of countries in the CEECIS region were formed during the early 1990s, some of them even more recently. Retrospective country-specific data on the EM-DAT database does not extend beyond their inaugurations.

The 2011 Global Assessment Report on Disaster Risk Reduction (GAR11)[13] highlights that at present, most countries do not systematically account for the low severity – high frequency losses and the cost of recurrent disaster losses.

Country-level reports and other documents were also reviewed to gain an understanding of hazards and their impact on targeted countries, but this data was used only as supplementary information due to standardization issues.

12 http://www.unisdr.org/we/inform/terminology
13 http://www.preventionweb.net/english/hyogo/gar/2011/en/home/index.html

Brief Country Profiles



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

* The official name is Kosovo under UNSCR 1244.

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Albania

Hazards and disasters overview

Albania's geographical position and the nature of its topography mean that the country is frequently affected by intense precipitation, making it most vulnerable to floods. In terms of number of events, EM-DAT shows (Table 1) that from 1980 to 2010 floods accounted for 39 per cent of disasters, with earthquakes accounting for 17 per cent. The country is also vulnerable to natural hazards including landslides, droughts, extreme temperatures, wildfires, wind storms, epidemics and avalanches.

The occurrence of different disasters in the country over the period shows that Albania was most vulnerable to meteorological hazards. A flood in September 2002 affected nearly 17,000 families, inundated 30,000 hectares of agricultural land, damaged 494 houses and caused reported damage of US$17.5 million. A more recent flood in 2010 affected 4,000 families. In terms of victims, the 1989 - 1991 drought affected almost the entire nation.

During the last 30 years, EM-DAT reports four earthquakes, killing one person and affecting 7,945 others. According to a scenario analysis carried out in

Table 1 Albania: Summary data on disasters caused by natural hazards (1980 -2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Drought	1	4.34	0	3,200,000	0
Earthquake	4	17.39	1	7,945	0
Epidemic	2	8.69	7	292	0
Extreme temperature	3	13.04	71	7,235	0
Flood	9	39.13	19	136,984	24,673,000
Mass Movement (landslide)	1	4.34	57	26	0
Wildfire	1	4.34	0	75	0
Wind Storm	2	8.69	8	525,000	0
Total	23	100	163	3,877,557	24,673,000

2003[15] estimating human casualties due to earthquakes, the mortality rate would be highest in Durres for an earthquake with a 475-year return period[16]. From a structural point of view, it is estimated that the highest percentage of building collapses in such an earthquake would occur in Diber quark [17], followed by Durres. Indeed, in 2009 an earthquake did occur in Diber quark, in Peshkopi, in which several hundred families were forced to leave their homes. From the expected maximum flood potential for an event with a 100-year return period, Gjirokastra, Tirana, Elbasan and Shkoder quarks are in extreme flood-risk zones.

Landslides often occur as associated hazards of floods or earthquakes. During the period 2003 - 2006, there were 45 reported cases of very significant landslides, while the Global Fire Monitoring Centre reports that between 1981 and 2000 there were 667 fires affecting almost 21,500 hectares of land in Albania.

Extreme temperatures have also had severe impacts, as indicated by the large number of deaths compared to number of events. Landslides and earthquakes are the next most severe hazardous events in the country.

The country's vulnerability to disasters is increased by internal migration, uncontrolled land use and the construction boom. Limited disaster risk preparedness and prevention and the still weak disaster management structures are further obstacles to progress in this area.

Disaster management structure and legislation

The legislation covering disaster management in Albania reflects the processes which are transforming the centralized structures of the sector into an essentially decentralized scheme based on a network of local decision centres. The current efforts are focused on the inclusion of Albanian civil protection structures within a European perspective and represent a road map for achieving this.

The first move towards the establishment of a more modern civil protection system came with Law 8756, in March 2001. The law encompasses the planning, prevention and preparedness system and defines first coordination among the different actors in civil emergency response operations. The law considers both disasters caused by the impact of natural hazards, including earthquakes, floods, landslides, avalanches, strong winds, forest fires and epidemics; and disasters due to human causes, including transport accidents, urban fires, explosions, dam collapses, Nuclear, Biological, Chemical (NBC) releases, riots and war.

The Department for Civil Emergencies, Planning and Response of the Ministry of Interior is responsible for disaster management. It is comprised of permanent and provisional structures on central, regional and local levels.

In December 2004 the Albanian Council of Ministers adopted the National Civil Emergency Plan, the development of which was supported by UNDP and the Department for International Development (DFID). The rationale of the plan was to stress the participation of civil society within the civil protection structures and define the strategy and the main targets of the Department for Civil Emergencies, Planning and Response - using EU good practice as a reference point and after consideration of wider regional developments in the Balkans. The plan defines the roles and duties of all relevant governmental institutions and civil organisations involved in civil protection for all phases of emergency management. Albania's cooperation with other countries has a special emphasis.

Improving response capacities at local levels; strengthening planning, monitoring and operational structures at all levels; and building and enhancing institutional capacity at all levels remain the key challenges to developing an integrated, responsive and effectively-coordinated disaster management system in Albania.

However, plans were under way for the renamed Department of Civil Emergency to be based on a more functional and versatile scheme that should simplify the cumbersome command and control chain of the previous, rigid and centralised, system. An integrated system of communication and early warning for civil emergencies is planned to be introduced as a unified 112 operational centre. Moreover, the new civil protection structure is to adopt a multi-level system, emphasizing the role of local levels whose competencies and responsibilities will be enhanced and enlarged to include preventative activities and planning, under the responsibility of prefects.

A network of five or six regional headquarters, each having authority over a set of three or four counties, is to be established to create a system of reliable, capable and autonomous bodies able to manage and coordinate operations during "ordinary" emergencies.

The following institutions and structures are involved in disaster management in Albania: line ministries, quarks, municipalities and communities; the Albanian Red Cross and other national NGOs; the Academy of Science and scientific research institutes; citizens and communities; United Nations agencies, the North-Atlantic Treaty Organization/ Civil-Emergency Planning/Euro-Atlantic Disaster Response Coordination Centre (NATO/CEP/EADRCC) and other international organizations; and regional and European initiatives such as Civil Military Emergency Planning, the Disaster Preparedness and Prevention Initiative (DPPI), the Black Sea Agreement, and the European and Mediterranean Major Hazards Agreement (EUR-OPA).

The main operational forces deployed to cope with major emergencies are the armed forces, coordinated by the Ministry of Defence; state and other police; the fire-fighting and rescue service; the ambulance service; the Albanian Red Cross and other national NGOs; public service enterprises and private companies contracted at local or central level; and specialized international teams.

Other significant pieces of policy and legislation in the realm of disaster risk reduction include the Law on Civil Emergency Services, and the Policy on Civil Emergency Planning and Response.

How education is used to promote safety

The Department of Civil Emergencies, Planning and Response, through its directorates and other structures, is responsible for training and technical instruction of personnel within the civil protection structure. It has developed training curricula for the capacity-building of civil emergency system personnel. Training activities are carried out yearly on the basis of national civil protection technical manuals or those adapted from international literature produced on the subject.

To date, such training activities are not yet formalized or structured according to a national standard, although the National Civil Emergency Plan is the reference point for launching the next stage in the development of training: the National Civil Emergency Training Strategy. The Strategy is designed to make possible the in-

15 Kapllani, B. (2006). Civil Emergency Services in Albania, South East Europe Disaster Preparedness, 21-23 March, 2006, Dubrovnik.
16 A return period is a way of expressing the probability of events that occur infrequently. An event such as the one described here, with a 475-year return period, is likely to occur once every 475 years.
17 Quark is a local word for region.

stitutionalisation of disaster management initiatives.

One of the priorities is the establishment of a National Training Centre for Civil Protection, which will provide local civil protection managers with standardized training courses, leading to a strengthening of operational staff capacities.

The General Directorate of Civil Emergencies, Planning and Response has also prepared and disseminated three brochures, covering earthquakes, floods and home safety, which are used to raise awareness at the community level.

Each county and district comprises within their permanent staff a set of technicians (five or six for a county and one for a district). Each prefecture has a Civil Emergency Officer who has been trained by a directorate using a standard two-stage Albanian civil emergency training manual. Each municipality and commune has a designated officer with responsibility for civil emergency matters who will have also benefited from instruction in the standard training curriculum and, quite possibly, through the frequent necessity of observing early warning, standby and response protocol.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

In addition to organizations and bodies already mentioned - notably the Albanian Red Cross, which has signed cooperation agreements with government structures at both central and regional levels - national partners involved in disaster risk reduction include the Ministry of Interior, Civil Emergency General Directorate; the Hydrometeorological Institute; the Seismological Institute of the Academy of Sciences of Albania; and the NGO Melteza, which is active in the Shkodra and Lezha regions and is largely involved with search and rescue operations and first aid.

UNICEF collaboration with Albania in education and disaster risk reduction

The 2006 - 2010 country programme assisted Albania to meet its obligations under the Convention on the Rights of the Child and the Convention on the Elimination of All Forms of Discrimination against Women. The programme supports national priorities for education, health, protection and poverty reduction, including the National Strategy for Development and Integration. The goals of the National Strategy are to reduce poverty and income disparity; reduce infant and maternal mortality and disease rates; increase attendance in compulsory education and extend the average schooling period; and improve both governance and basic services.

The previous country programme centred on the promotion of child survival, youth development and participation, and child protection, with a focus on the development of a legislative framework and key social policies.

The fundamental aim of UNICEF has been to create a “children first” mindset in Albania – a core belief that the question “will this be good for children?” is routinely asked before any policy is adopted or action taken. Within the broad programme of children’s health and development, UNICEF has devoted special efforts to ensure equal learning opportunities for all children and that school discipline respects children’s rights, with special attention given to children from marginalized communities.

UNISDR collaboration with Albania

In the context of the implementation of the HFA, Albania has nominated an official HFA Focal Point: the Director of the General Directorate for Civil Emergency. Since its nomination, the collaboration with UNISDR has seen Albania actively contributing to the disaster risk reduction agenda in the international and regional context. Albania has joined SEEDRMAP, which has been developed by the World Bank and UNISDR. The programme aims at reducing the vulnerability of SEE countries to disasters. In the context of this programme, Albania has contributed to knowledge-sharing on disaster risk reduction by providing information to a number of reviews undertaken in the region related to risk assessment data, hydromet issues, the role of civil protection in disaster risk reduction, and disaster risk financing options.

Building on the international and regional agenda, Albania has prepared its HFA report highlighting challenges and areas of advancement on disaster risk reduction issues.

Furthermore, in the context of HFA implementation and SEEDRMAP development, Albania has collaborated with UNISDR, DPPI and the Capacity for Disaster Reduction Initiative (CADRI) to strengthen its national capacity development by joining and contributed to a number of workshops and information sessions dedicated to the topic of disaster resilience. The workshops/sessions were attended by all SEE countries.

Since 2009, the Albania Disaster Risk Mitigation and Adaptation Project (ALDRMAP), funded by the World Bank and supported by UNISDR, has become effective and fully operational. The project is funded by the World Bank with a total of US$9.16 million, US$3 million of which is in the form of a loan to the Albanian Government and US$6.16 million is a credit from the World Bank. The project, which is being implemented from 2009 - 2012, aims to strengthen institutional capacities, reduce Albania’s vulnerability to disasters caused by natural and technological hazards, and mitigate the human, economic and financial losses caused by disasters. The overall coordination of this project was conducted in the framework of the Ministry of Interior.

The Council of Europe (CoE) has a permanent correspondent in Albania.

Armenia

Hazards and disasters overview

Armenia is one of the most disaster-prone countries in the Southern Caucasus. The country is vulnerable to natural hazards including earthquakes, droughts, floods, landslides, avalanches, mudslides, strong winds, snow storms, frost and hail.

Earthquakes are the most dominant hazard in Armenia. As per Global Seismic Hazard Assessment Programme (GSHAP, 1998), Armenia lies in a region with moderate to high seismic hazard. The analysis of disaster data (1980 - 2010) shows that although there were fewer earthquakes than floods, earthquakes caused a disproportionately large amount of damage. The most devastating, the 1988 Spitak earthquake, had a magnitude of 6.9 and killed 25,000 people, left 517,000 people homeless and prompted the evacuation of almost 200,000 others. Direct economic loss was estimated at US$14.2 billion. The July 1997 Noyemberyan city earthquake affected 15,000 people and caused an economic loss of US$33.33 million.

The drought hazard is significant in Armenia. Among recent events, the 2000 drought severely affected 297,000 people, with reported damage of US$100 million. The flood hazard is also significant. The single flood event of June 1997 affected 7,000 people and caused an economic loss of US$8 million.

One third of Armenia is exposed to the risk of landslides. During a recent five-year period, landslides left more than 2,000 families homeless[18].

Table 2 Armenia: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.
*The table does not include data for the 1988 Spitak earthquake

Disaster	Number	Percentage	Total deaths	Total affected	Economic loss
Drought	1	20	0	297,000	100,000,000
Earthquake *	1	20	0	15,000	33,333,000
Flood	3	60	5	7,144	8,120,000
Total	5	100	5	319,144	141,453,000

18 Pusch C. (2004). Preventable Losses, Saving Lives and Property through Hazard Risk Assessment, A Comprehensive Risk Management Framework for Central Europe and Central Asia, Disaster Risk Management Working paper series 9, The World Bank.

Disaster management structure and legislation

In 2008, the Armenian Government established the Ministry of Emergency Situations (MoES) with a mandate that encompassed developing a programme for risk assessment and emergency preparedness, carrying out emergency response and recovery, and coordinating government-wide policy on risk mitigation[19].

The establishment of the MoES marks what is suggested is a stage in the development of a multi-sectoral platform for disaster risk reduction in Armenia – the Armenian National Platform (ARNAP) - which was officially announced on 2 December 2010.[20] Among other governmental organizations, it incorporates the key national actors in disaster risk reduction: the National Survey for Seismic Protection; the Armenian Hydrometeorological Bureau; and the Armenian Rescue Service (ARS). The Emergency Response Commission was established in 2010.

The ARS, which was established in 2005 and is now the primary organization responsible for emergency management, replaces the State Emergency Management Administration, established in 1991 under the Ministry of Territorial Administration. The ARS is the governmental entity which manages disaster risk reduction multi-coordination and cooperation for population protection systems in emergencies. These systems incorporate the national and local governance bodies and establish the channels of authority in disaster reduction. It maintains public awareness, trains responders, plans for responses to disasters caused by natural hazards, and coordinates emergency response and recovery.

To manage emergency responses, the ARS established the Centre for Crisis Management, which operates under the Department of Operations Management. The Centre is an emergency call centre and an emergency operations centre that services all calls related to accidents and emergencies; organizes all notification and warnings to administrative bodies and the public; notifies international entities of trans-border emergencies, as per international agreements; collects and provides information to public administrative bodies; and dispatches Centre task forces to manage emergencies.

Disaster risk reduction measures are being carried out through the national budget according to relevant legislation; the national budget includes a Reserve Fund to be used in case of emergency.

The main directions in the pursuit of national policy in the area of disaster risk reduction are made through close cooperation with international organizations, foreign states - including those of the South Caucasus and neighbouring countries - and through the involvement of national and local governance bodies, NGOs and the population in developing and implementing initiatives to minimize disaster risk.

In the two decades since the 1988 earthquake, the Armenian Government has passed significant legislation to improve risk reduction and emergency management systems, including laws and measures on risk reduction and emergency management. The laws include: the Law on Armenian Rescue Service (2005); the Law on Rescue Forces and Status of Rescuers (2004); Law on Civil Defence (2002); Water Code (2002); Law on Seismic Protection (2002); Law on Fire Safety (2001); Law on Protection of Population in Emergency Situations (1998); Law on Protection (1997, revised in 2008); Martial Law (1997, revised into the Law on the Legal Regime of the State of Martial Law in 2006); Law on Internal Troops (1997); and the Law on Local Self-governing (1996).

Other relevant legislation includes the Law on Safe Utilization of Atomic Energy for Peaceful Purposes; Law on Environmental Education and Public Awareness; Law on Task Force and Status of a Rescuer; and Principals of Environmental Legislation.

However, these laws have diffused government responsibility for disasters caused by natural hazards and the response to emergencies among multiple agencies. Some roles are clearly defined and others are not, which has created some confusion and duplication of efforts[21].

Although several organizations are implementing emergency management measures in Armenia, so far the country lacks a comprehensive disaster risk management strategy – although one is currently under development - that includes prevention, response, recovery and adaptation measures. One of the main recommendations to address the shortfalls in risk reduction and emergency management proposed by several international development partners to the Government of Armenia is to develop a comprehensive national plan of action, providing for the overall coordination of all the partners involved in a disaster response at national, regional and local level.

In collaboration with UNDP, the Government is actively supporting disaster management activities. A Disaster Management Group meets periodically to review the state of preparedness and to exchange information related to disaster risk reduction. Together with the Swiss Agency for Development and Cooperation (SDC), UNDP has supported the disaster preparedness training of school children in several districts. The establishment of the ARS theoretical training centre was supervised by UNDP.

How education is used to promote safety

One of the ways in which the Armenian Government has demonstrated a commitment to disaster risk reduction as a priority area has been through its formation of an adequate national legislative base for the creation and updating of capacity-building measures for training and education.

As part of the measures the ARS maintains a State Academy of Crisis Management, which is the only emergency management school in the CIS region. The Academy provides vocational education and training, specialized rescue training, higher education courses for bachelor and master degrees, and emergency management education for teachers and students. The ARS also manages a Public Information Centre with a mandate to increase public awareness of emergency preparedness through mass media information campaigns and press conferences.

Other examples of information dissemination include seminars and workshops held by the ARS to increase preparedness with regard to chemical, radiological and bacteriological hazards.

An initiative was jointly performed with and supported by the Asian Disaster Reduction Centre aimed at promoting the integration of earthquake disaster risk reduction into school curricula.

The initiative was designed to empower students and teachers and help build greater disaster awareness in communities.

19 The following description of the Armenian disaster management structure and legislation draws information from GFDRR, "Disaster Risk Reduction and Emergency Management in Armenia, Global Facility for Disaster Reduction and Recovery 'Armenia: Institutional Arrangements for Disaster Risk Management and Reduction'", 2009.

20 From "Armenia: National progress report on the implementation of the Hyogo Framework for Action", 2010. For more information, see http://www.preventionweb.net/english/policies/v.php?id=16231&cid=8

21 GFDRR, "Disaster Risk Reduction and Emergency Management in Armenia, Global Facility for Disaster Reduction and Recovery, 'Armenia: Institutional Arrangements for Disaster Risk Management and Reduction'", 2009.

Furthermore, tangible results have been achieved through the National Programme on Seismic Risk Reduction. The decision was made to extend the initiative following its early successes in which 250 students and teachers received training and knowledge. In the second phase the scope of the audience was extended to involve new schools and communities as well as increased awareness and preparedness of the positive impacts of earthquake disaster risk reduction in schools. Within the framework of the 2006 – 2007 UNISDR World Disaster Reduction Campaign: Disaster Reduction Begins at School, a single training project held over several months helped turn 375 school students, teachers and school principals into qualified disaster risk reduction trainers.

Armenia has officially appointed an HFA Focal Point - the Ministry of Emergency Services - as a step in its implementation and pursuit of HFA objectives and strategic goals. In December 2010 a decree was issued in establishing a National Platform Fund. The disaster risk reduction National Platform is a structure elaborated and administered by the Government of Armenia with the involvement of stakeholders.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

The traditional partner of the MoES, together with the State Academy of Crisis Management, Armenian National Survey for Seismic Protection and other governmental entities, is the Armenian Red Cross Society (ARCS). In 1997, the two organizations signed a memorandum of understanding on joint cooperation and coordination in disaster response, public awareness, disaster risk reduction and in other directions. The following year, ARCS established its disaster preparedness and response structure.

In parallel with building its disaster management capacity, the ARCS has concentrated on educating communities. As part of this a number of training sessions have been conducted across the country and a number of educational materials have been printed and distributed to the population. The main focus has been on school children, who are recognized as one of the most vulnerable groups. Around 500,000 copies of educational material on disasters caused by natural and technological hazards have been developed and disseminated throughout the country, serving as a basis for different awareness-raising events on disasters, mainly at schools. The most successful and best received among children was the series of *Aghetik* (Disaster) educational books, developed by the State Academy of Crisis Management. Two animations with the themes Aghetik and Earthquakes and Aghetik in Routine Life based on educational material were created and broadcast, as well as other disaster risk reduction-related programmes on both TV and radio.

"Formulation of an effective and functional disaster risk reduction system in Armenia has an important role not only for disaster risk management but also for reducing poverty, social, economic and environmental vulnerabilities and for the sustainable development of the country",

Minister of Emergency Situations of Armenia, Armen Yeritsyan.

The ARCS also regularly organizes evacuation simulations in schools in order to help teachers and pupils develop the necessary skills to vacate buildings during emergencies in an organized manner. Since 1998, 169 such simulation evacuations in 169 schools have been conducted, with the involvement of 95,350 pupils and 7,454 teachers.

Within the framework of the Disaster Management Programme, the ARCS has implemented mini projects such as the National Drawing Competition, the Children's Quiz and the Life-Skills and Young Rescuers Competition (in cooperation with the International Federation of Red Cross and Red Crescent Societies [IFRC], UNDP and SDC).

The Government, in collaboration with the Swiss Agency for Development and Cooperation, has implemented the project Ardzagank (Response), with the aim of strengthening the country's decentralized disaster response structure by intensifying the training of ARS firefighters and volunteers of the ARCS and other groups by spreading rescue know-how at the local level. As a follow-up, in 2007 SDC initiated the pilot project Firemen in Communities, together with the ARS Information Centre. The objective of the project is to engage fire-fighters into the public awareness campaign and to promote them as "resource people" at local level.

The Armenia National Survey for Seismic Protection is another national stakeholder active in disaster risk reduction. As part of the World Disaster Reduction Campaign 2006 - 2007 with the theme Disaster Risk Reduction Begins at School, and in collaboration with the Asian Disaster Reduction Centre, a seismic risk reduction project for schools was initiated, recognising that school students who know how to react in the event of a disaster can make a difference in protecting others. The project helped turn hundreds of students, teachers and school principals into seismic risk reduction trainers; school hazard mapping was conducted and a damage and loss assessment was completed.

The Institute of Geological Sciences is one of the country's few functioning research institutions. The Institute engages studies of natural hazards, including landslides, and seismic and volcanic activities, etc. It collaborates with the Institute of Geophysics in Georgia, with the Centre for Monitoring in Azerbaijan, and with institutions in Iran and in other countries.

One of the Institute's priorities is the training of new staff. To facilitate this it cooperates with the Georisk Company, which was established to support young staff members. The expertise of the Institute is often used by the Ministry of Emergency Situations in its activities and in the development of project proposals.

The Institute is a member of the National Security Council of Armenia. The Institute is a partner of the Regional Seismic Centre, which is located in Georgia. Although the Centre is no longer able to maintain activities at the level it used to, both countries nevertheless maintain a seismic testing ground on the border between Armenia and Georgia. Plans for the near future include the establishment of a regional centre in Georgia to concentrate on natural hazards and the risk of trans-border disasters for the three countries of the sub-region. The Institute supports the creation of a unified comprehensive database on seismic activities for the region.

Brief Country Profiles: Armenia

UNICEF collaboration with Armenia in education and disaster risk reduction

UNICEF has been working in Armenia since 1994, helping the Government to ensure that children grow healthy, educated and protected from abuse and neglect, trafficking and HIV/AIDS.

In the education sector, among other activities UNICEF is collaborating with the Government to ensure that all children in Armenia go to school prepared and receive a quality primary education. Between 2005 and 2007 UNICEF collaborated with UNDP on an education project involving the risks posed by mines.

The introduction of the life-skills project from 2005 to 2009 is one of several education reform initiatives that have been undertaken in Armenia since 1995. The publication Me and the Surrounding World, which is included in the primary-school curriculum, incorporates life-skills topics and methodology, including disaster preparedness. UNICEF also devised the conceptual standards for child-friendly schools to ensure a safe and enabling school environment for all children.

To promote adolescent health and development, among other activities UNICEF also promotes the introduction of life-skills-based education in the upper grades of secondary schools, with a particular focus on HIV/AIDS and healthy lifestyles. The healthy lifestyles curriculum was developed and piloted in the upper grades of 30 schools, with relevant trainings and guidelines provided to teachers of those schools. Among other subjects, life-skills education is integrated into the state curriculum and includes a significant component on disaster preparedness and reduction for school children. During interactive lessons children learn how to behave in times of disasters caused by natural hazards, and practice skills that could be life saving.

The country programme outcomes on health, nutrition, education and child protection will contribute mainly to the strengthening of democratic governance, access to and quality of social services, and disaster risk reduction and the reduction of risks to the environment.

Under the disaster preparedness (DIPECHO) programme of the European Commission Humanitarian Aid and Civil Protection office (ECHO), UNICEF is conducting disaster preparedness activities in the South Caucasus and Central Asia. In Armenia, the project has been implemented in the Shirak, Gegharkhunik, Aragatcotn, and Vayots Dzor regions, which are most prone to natural and industrial hazards. In consultation with the relevant authorities, particularly the Ministry of Education, schools and pre-schools have been selected based on threats and vulnerabilities to disaster. The 28,650 proposed beneficiaries include residents, teachers, students, relevant provincial emergency and education department officials, local authorities and national experts.

UNISDR collaboration with Armenia

UNISDR began active collaboration with the Armenian Ministry of Emergency Situations in 2008. Ever since the Ministry's establishment, its leadership, along with the Government, have strongly advocated for strengthening the coordination of disaster risk reduction actions at both national and sub-national levels. Following consultations, the UNISDR regional office in Central Asia and Caucasus provided the Ministry with technical assistance, publications and methodological support, and organized workshops and meetings involving senior Ministry staff and experts in various fields. A series of high-level meetings, workshops and discussions organized by UNISDR, both in Armenia and in the region of Central Asia and Caucasus - and including participation in thematic conferences in 2007 - 2010 - served as a source of expertise and knowledge in the creation of the Armenia National Platform for disaster risk reduction.
Other collaboration has included:

- In 2009, UNISDR - with the support of the World Bank, World Meteorological Organization (WMO) and CAREC - completed the Central Asia and Caucasus Disaster Risk Management Initiative Risk Assessment for Central Asia and Caucasus Desk Study Review, which covers Armenia.
- In preparation for the 3rd Session of the Global Platform for Disaster Risk Reduction in 2011, Armenia completed and submitted the HFA implementation progress report.
- In 2010, UNISDR - with the support of the World Bank - completed the Study of Catastrophe Risk Financing Options: Mitigating the Adverse Financial Effects of Natural Hazards on the Transcaucasian Economies, which will be published and disseminated in 2011.
- Also in 2010, UNISDR provided support to the preparation of the Report on the Status of Seismic Observations and Research in the Republic of Armenia.
- In 2011, UNISDR provided consultative assistance to the Government of Armenia through the project Strengthened ISDR Partnerships for Accelerated Implementation of the Hyogo Framework for Action, funded by ECHO. The project includes the activties in Armenia, along with the four other pilot countries around the world (Nepal, Indonesia, Mozambique and Peru), to assess progress in the implementation of the HFA at local level and the establishment of local coordination mechanisms for disaster risk reduction.
- Following the recommendations of UNISDR for establishing multi-stakeholder dialogue and coordination, the Ministry of Emergency Situations assigned crisis managers as Focal Points in each of the country's 10 provinces.
- The UNISDR biannual campaign Mak-ing Cities Resilient included Yerevan, the capital of Armenia. A number of meetings were held with the various official representatives of the Mayor's office. In 2011, Yerevan was awarded a Role Model City certificate.

Brief Country Profiles: Armenia

Azerbaijan

Hazards and disasters overview

Azerbaijan's topography and water-related fluctuations in the Caspian Sea[22] make it susceptible to heavy flooding. Analysis of the disaster data show that floods have affected a large number of people and caused significant economic losses in the past 20 years. The April 2003 flood in the Ismayilli-Gobustan region alone affected 31,500 people and caused an economic loss of US$55 million. In June 1997, a flood in the Tovuz-Khanlar region affected 75,000 people and caused an economic loss of US$25 million. Floods in early May 2010 caused serious damage to infrastructure and services in Sabirabad and Shirvan districts. About 50,000 hectares were affected and 4,000 people fled as a result of floods in the Kur-Aran lowlands. Furthermore, the floods posed a serious threat to the neighbouring 7 districts.

The country is also vulnerable to other disasters caused by natural hazards, including earthquakes, droughts, landslides, avalanches, debris flows and mud flows. As per GSHAP[23], Azerbaijan lies in a region with moderate to very high seismic hazard. A magnitude 6.3 earthquake in the Baku region in November 2000 killed 31 people, affected 3,294 others and incurred a reported economic loss of US$10 million. An earthquake in July 1998 reportedly killed one person, affected a large number of people and damaged hundreds of houses.

In 2000, a severe drought caused an economic loss of US$100 million. Occurrences of landslides during heavy rains cause significant damage to human settlements, industry, farms and roads[24]. However, the only reported disaster event due to a landslide was in April 2000. A total of 11 people were killed and economic loss amounted to US$4 million.

EM-DAT shows (Table 3.) that during 1980 – 2010, floods accounted for the major share of disaster events caused by natural hazards, followed by earthquakes.

Table 3 Azerbaijan: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number	Percentage	Total deaths	Total affected	Economic loss
Drought	1	8.33	0	0	100,000,000
Earthquake	3	25	33	712,474	15,000,000
Flood	7	58.3	16	1,840,300	96,200,000
Mass Movement (landslide)	1	8.33	11	0	
Total	12	100	60	2,552,774	211,200,000

22 Pusch C. (2004). Preventable Losses, Saving Lives and Property through Hazard Risk Assessment, A Comprehensive Risk Management Framework for Central Europe and Central Asia, Disaster Risk Management Working paper series 9, The World Bank.
23 GSHAP (1998). Seismic Hazard Assessment for the Caucasus Test Area, by Serguei Balassanian et al. (http://www.seismo.ethz.ch/gshap/caucas/caucas.html).
24 Pusch C. (2004). Preventable Losses, Saving Lives and Property through Hazard Risk Assessment, A Comprehensive Risk Management Framework for Central Europe and Central Asia, Disaster Risk Management Working paper series 9, The World Bank.

Disaster management structure and legislation

The Government of Azerbaijan made the decision to strengthen activities and policies in the field of prevention and response to disasters in 2003. Consequently, the State Commission on Emergency Situations was formed, comprised of representatives of ministries and the territorial administration. Its main function was response and rehabilitation following disasters.

The Ministry of Emergency Situations (MES) of the Republic of Azerbaijan was established by Presidential decree in December 2005. The decree determined the structure, functions and responsibilities of the new structure and ensured the state budget funding of it. The MES has a very wide scope of responsibilities and is the authorized state agency for prevention and response and preparedness for emergency situations. The Ministry assumed a number of functions that had been fulfilled by other ministries.
They are:

- Civil defence – from the Ministry of Defence.
- Fire service – from the Ministry of Internal Affairs.
- Technical supervision of construction.
- Seismic safety.
- Water rescue (CasSpas).
- Rescue service.
- Nuclear and technological safety.
- State reserve for emergency situations.

Among other functions the MES ensures safety and rescue on sea oil platforms and oil processing facilities. To conduct this work the Ministry is reasonably well equipped, operating a number of special vessels. Central government ensures it has regular and sufficient funding. Four regional centres are already operational, although it is still in the process of forming its regional structures (one each for seven to eight districts). Ultimately, the MES headquarters will employ 200 - 250 people in various units. The MES remit includes a Caspian Sea emergency rescue service with a total of nine ships, seven of which are operational.

The MES is the authorized government agency in the field of disaster management. It has an extensive legislative mandate, including the power and authority to supervise construction quality, retrofitting of existing infrastructure and cooperation with the Red Crescent Society. The Ministry has recently signed an agreement with the Russian Federation in the area of training, supply of equipment and exchange of expertise. Similar cooperation already exists in relations with Turkey and other countries.

In general, the Government of Azerbaijan has demonstrated a strong commitment to disaster management and disaster risk reduction. As testament to this the MES receives significant financial and political support, which has allowed it to continue to build up its staff and maintain and develop its units and functions in a number of geographic and technical areas.

How education is used to promote safety

Currently, an expansive programme of school renovation and construction is being carried out by the Heydar Aliev Foundation, led by the wife of the current President. However, this relates only to the structural improvement of school buildings, and mostly in the capital city of Azerbaijan. There is a need to coordinate this activity to cover the whole country with a special focus on disaster risk reduction in education.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

The Azerbaijan Red Crescent Society (AzRC) is one of the members of the State Emergency Commission and is primarily oriented toward emergency response coordination and improved resource mobilization. Within that framework, and together with other activities, AzRC has built the capacity of local branches by conducting trainings, seminars and simulation exercises. At the same time, for the purposes of increasing the preparedness at the community level, a booklet What to do before, during and after an earthquake has been developed and disseminated among the public. A film on this topic has also been made. Furthermore, the decision has been reached to develop and implement training modules focused on disaster preparedness for school children in eight communities.

The Republican Seismic Centre of the Academy of Science of Azerbaijan concentrates research and data collection in the areas of seismology, geophysics and geochemistry; it maintains seismic monitoring in this inland country and in the Caspian Sea. The Centre maintains 21 telemetrics seismic stations (14 installed in 2003 and 7 in 2009) that provide real-time information on seismic events to the central data-bank at the Centre. The sea-monitoring service is the only one of its kind among all countries of the Caspian Sea. The service is especially important to the oil exploration and extraction industry, and in particular the oil pipeline that runs along the seabed from Kazakhstan to Azerbaijan. The country plans to expand the sea-monitoring network despite the high cost of the stations (about US$500,000 each).

The NGO FOVGAL is among the most active and experienced in the field of environmental protection, disaster management and risk monitoring. The NGO is headed by Dr. Habib Ojagov, who is also the director of the European Training and Information Centre in Baku, a Professor at the Azerbaijan University of Architecture and Construction, and a member of the Methodology Centre at the Ministry of Education. The NGO has implemented a number of projects with funding from the European Commission, United Nations and other donors. The NGO (which is actually an association of several national NGOs) organizes annual conferences on various themes, such as the “Training of the rural population in emergency situations”. In 2010 it organized conferences on the “Year of the Environment” and “The impact of emergencies on the environment”. The NGO initiated, developed and introduced a textbook on life safety for secondary-school children. In November 2010 the NGO planned to initiate a seismic safety assessment of the country’s schools. Dr. Ojagov requested that UNISDR make an input to the conference by sharing the experience of Central Asia (namely, Uzbekistan) and facilitating the participation of leading Central Asia scientists and experts. The NGO has also published, in the English language, research on an “assessment of the situation in Azerbaijan”.

The NGO CENN - part of the larger CENN network in the South Caucasus – is headed by Professor Islam Mustafaev, Country Coordinator. The NGO implements small-scale research and projects in the field of environmental protection. The CENN network has a similar office in Yerevan and a regional office in Tbilisi, Georgia. CENN is one of the leading NGOs in Azerbaijan in the field of environmental protection and climate change.

The United Nations Development Assistance Framework (UNDAF) for 2011-2015 integrates disaster risk reduction as a cross-cutting issue; the official signing of the document by the United Nations and the Government was scheduled to take place in early 2010.

UNICEF collaboration with Azerbaijan in education and disaster risk reduction

UNICEF has been operating in Azerbaijan since 1993 and as part of its work has been helping in the Government's root-and-branch reform of the education sector.

The organization's country programme for 2005 - 2009, which was extended until 2010, had as its goal "all rights for all children, with no child left out". Among other activities, it focused on emergency preparedness, including mine-awareness education for children, and advocacy for the ratification of the Ottawa Convention on the prohibition of the use, stockpiling, production and transfer of anti-personnel mines and on their destruction. The programme has helped strengthen emergency preparedness and response by monitoring and updating scenarios and contingency plans, and building up national capacities for contingency planning. Communities in the eight focus districts have been able to prepare their own contingency plans to better cope with potential risks.

The programme has also helped strengthen the capacity of the Government, local authorities and communities to plan, manage and implement integrated programmes, including the concerted effort to improve emergency preparedness capacities. As part of the Early Warning Early Action project, introduced in 2009, risk reduction plans have been developed for education programming as part of the emergency preparedness aspect of the country programme.

Within the previous country programme framework, a network of 25 schools practising a new way of teaching and learning championed by UNICEF called "active learning" were established. The programme involved the introduction of modern techniques in classrooms, such as the use of group work and student presentations to improve children's critical-thinking skills and their ability to participate and express themselves. The schools encompass child-centred, competency-based teaching and learning with parental involvement in school governance.

The mainstreaming of active learning into the education reforms continued with active learning integrated into the pre-service and in-service teacher-training curricula in 2008. The programme supported the active learning policy, which ensured that all schools in Azerbaijan are "child-friendly" and meet certain minimum standards for effectiveness, safety and participation.

As a result of the avian influenza outbreak of 2006, which resulted in five human deaths, UNICEF coordinated the efforts of the United Nations, donors and other partners to ensure that partners involved spoke with one voice to support the Government in its efforts to contain the outbreak. In 2007, UNICEF continued to steer the National Task Force. Within the overall division of responsibilities established by the draft communication strategy prepared by the Avian Influenza Communications Group, UNICEF focused on ensuring that children and young people, who have been shown by research to be the most vulnerable to avian influenza infection, had access to information on how to protect themselves.

In spring 2010, UNICEF received a grant from DG ECHO under its DIPECHO programme to implement a disaster risk reduction project in South Caucasus and Central Asia. The programme involves implementing disaster mitigation and preparedness activities within the education sector in seven countries of the two sub-regions, including Azerbaijan.

Under the DIPECHO programme, UNICEF country offices and their government counterparts, mainly from the national education and emergency departments, are implementing a range of disaster risk reduction interventions aimed at policy, institutional and operational aspects. In particular, the programme aims to strengthen the national capacities and systems for disaster safety, especially targeting the selected schools in each country.

Eight regions of the country were chosen for the implementation of this project. In consultation with the relevant authorities, particularly the Ministry of Education, schools were selected based on threats and vulnerabilities to disaster. In identifying and selecting beneficiaries, additional consideration was given to population concentration and its exposure to potential disasters (including earthquakes, floods, landslides and industrial hazards etc.). Though not exclusively, priority was given to areas where UNICEF has on-going projects and programmes to consolidate, and promote ownerships and sustainability.

UNISDR collaboration with Azerbaijan

UNISDR covers Azerbaijan from its sub-regional office for Central Asia and Caucasus, located in Almaty, Kazakhstan. At the meeting with the Ministry of Emergency Situations in December 2009, the MES expressed readiness to collaborate in strengthening of the national coordination mechanism, establishment of a National Platform for disaster risk reduction, and specific activities, such as the school safety initiative. More detailed meetings and discussions were held between UNISDR and the Ministry in 2010. The senior staff of the Ministry participated in international and regional conferences and workshops organized and initiated by UNISDR, such as the 4th and 5th conferences of the Economic Cooperation Organization (ECO) in 2009 and 2010 in Dushanbe and Astana; and in the workshop Role of National Platforms in the Integration of Disaster Risk Reduction in University Programs, in Bishkek in February 2011; and in other events.

Other collaboration has included:

- In 2009, UNISDR - with the support of the World Bank, WMO and CAREC - completed the Central Asia and Caucasus Disaster Risk Management Initiative Risk Assessment for Central Asia and Caucasus Desk Study Review, which covers the Republic of Azerbaijan.
- In 2010, UNISDR - with the support of the World Bank - completed the review Study of Catastrophe Risk Financing Options: Mitigating the Adverse Financial Effects of Natural Hazards on the Transcaucasian Economies, which includes Azerbaijan. The review will be published and disseminated in 2011.
- The MES is responsible for the supervision of construction quality and safety. The Ministry actively promotes the integration of disaster risk reduction in school and university programmes, and pays special attention to professional training of its staff.
- In February 2011, the MES was officially appointed the HFA Focal Point by the Government. It intends to establish and announce a fully functional National Platform for disaster risk reduction in 2011.

Brief Country Profiles: Azerbaijan

Brief Country Profiles: Azerbaijan

Puppets teach children safety against disasters caused by natural hazards in Azerbaijan

Enhancing the skills of children in disaster preparedness is the major aim of UNICEF-supported puppet shows being performed in Azerbaijan in July.

About 1,000 children, in addition to parents and community members, attended puppet shows in Baku and Sheki in the last week of July.

Educating children on how to get better prepared for and respond to disasters is part of the DIPECHO project, which is being implemented in Azerbaijan by UNICEF, the Ministry of Emergency Situations and the Ministry of Education with the support of DIPECHO - which is an EU programme dedicated to disaster preparedness which funds projects in disaster-prone regions around the world.

The project aims to improve disaster preparedness and response in the country and thus to reduce the impact of disasters caused by natural hazards on the most vulnerable communities, especially children and women living in disaster-prone areas.

The landscape, climate and infrastructure make Azerbaijan highly vulnerable to disasters such as earthquakes, seasonal floods and landslides, as well as to disasters caused by man-made hazards. Every year floods and landslides cause significant damage to agriculture in rural areas and infrastructure in urban areas, as well as human casualties.

To ensure sustainability, UNICEF is currently promoting the inclusion of disaster risk reduction into formal school curricula. Under this project it has also developed training and learning programmes for teachers and children on how to reduce risk at a school and community level. The puppets shows use humour and examples of local hazards to teach all participants about correct behaviour before, during and after a hazard, for example to, 'drop, cover and hold' during an earthquake, the importance of fire safety and even road traffic rules.

"Children are important first because they are the most vulnerable in a disaster, but also because they possess unique abilities to contribute to the creation of a culture of safety and prevention," says UNICEF Representative in Azerbaijan Mark Hereward.

"Teaching about disaster risk reduction needs to start with children, and to involve parents and other community members as well. Disaster risks can be reduced and the resilience of communities can be achieved only through knowledge and education," he said.

The Government of Azerbaijan has been actively engaged in strengthening national capacities for disaster preparedness and risk reduction. Efforts are under way to ensure a systematic approach in identifying and assessing the risks and minimizing the socio-economic impact of disasters on children through the application of more holistic and integrated strategies for education.

Children and disasters: Building resilience through education

Belarus

The Republic of Belarus (Belarus) is located in the eastern part of Europe, bordering Poland, Lithuania, Latvia, Russia and Ukraine.

The territory of Belarus is 207,600 square kilometres, of which 23 per cent - populated by a quarter of the country's population - was contaminated by the radioactive contamination that followed the explosion of the Chernobyl Nuclear Power Plant reactor in neighbouring Ukraine, in 1986. A total of 17 European countries were affected by the radioactive fall-out. Taking into account that the negative consequences of the explosion were much graver for such a small country as Belarus than for other affected countries, the consequences were classified as a "catastrophe" or a "national environmental emergency". The accident imposed a heavy burden on the national budget through the cost of clean-up, compensation and recovery. The cost of dealing with the consequences of the Chernobyl nuclear accident range from 6 per cent to 25 per cent of the Belarus annual budget.

Hazards and disaster overview

Belarus is vulnerable to natural hazards including floods, extreme temperatures, wind storms and epidemics. EM-DAT shows (Table 4) that during the period 1980 - 2010, floods accounted for the major share of disaster events, affected the largest number of people (42,000) and caused an economic loss of US$104 million, the largest of any disaster.

The next most costly disaster events were wind storms which occurred on June 1997, caused an economic loss of US$33 million and affected a total of over 21,000 people. Extreme temperatures also caused a large economic loss (over US$30 million), killed five people and affected a further 1,820. In terms of number of people killed, epidemics were the most dangerous disasters caused by natural hazards, claiming the lives of 13 people.

Table 4 Belarus: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number	Percentage	Total deaths	Total affected	Economic loss
Epidemic	2	22.22	13	887	0
Extreme temperature	2	22.22	5	1,820	30,300,000
Flood	3	33.33	2	42,000	104,380,000
Wind Storm	2	22.22	5	21,390	33,000,000
Total	9	100	60	66,097	167,680,000

Disaster management structure and legislation

The Ministry for Emergency Situations of the Republic of Belarus is the state agency that exercises control and management in the sphere of emergency prevention, along with other duties related to disaster management and disaster risk reduction. It is the responsibility of the MES to carry out national policy in the field of prevention and "eradication" of natural and technological emergencies (including accidents and disasters caused by natural or technological hazards).

The MES has the following structure:

- Ministry for Emergency Situations.
- Regional and Minsk city divisions.
- City and regional departments.
- Fire and rescue units, divisions and posts in cities, districts and other entities.
- Educational and scientific institutions, and organisations and other divisions.

It includes the following specialized departments and units:

- Republican Special Team.
- Air Search and Rescue Service.
- Republican Centre for Emergency Management and Response.
- Republican Centre for Certification and Examination.
- Republican Logistic Centre.
- Republican Information and Propagation Centre.
- Scientific and Research Institute on Fire Safety and Emergency Situations.

The MES also includes four educational entities: the Command and Engineering Institute for professional training in "Prevention and eradication of emergency situations" and "Safety of people, objects and territories in emergency situations"; the Gomel Engineering Institute for advanced training on "Prevention and eradication of emergency situations"; the Institute of Retraining and Professional Development; and a college under the Gomel Engineering Institute which provides general secondary education with advanced teaching and specialist vocational training for students entering the MES system.

For the purposes of information and education the MES makes use of 795 training and methodological centres, 1,000 education centres of the Ministry itself, and 2,500 clubs and young fire-fighters teams[25].

There are numerous acts of legislation on prevention and management of emergency situations in Belarus. They include the: Protection of the Population and the Territories in Natural and Man-made Disasters Act; Fire Safety Act; Radiation Safety for the Population Act; Industrial Safety and Dangerous Industrial Works Act; Rescue Services and Status of the Rescuer Act; and others.

Selected national and international partners involved in disaster risk reduction

UNICEF collaboration with Belarus in education and disaster risk reduction

UNICEF is part of the interagency initiatives and regional cooperation that also includes institutional partners such as the International Chernobyl Research and Information Network, launched in 2009 by a joint effort of the International Atomic Energy Agency (IAEA), UNDP and the World Health Organization (WHO), which is aimed at addressing the information needs of the population living in the Chernobyl-affected territories of Belarus, the Russian Federation and Ukraine. Funded by the United Nations Trust Fund for Human Security, this initiative aims to translate the latest scientific information on the consequences of the accident into sound practical advice for residents of the affected territories. Improved access to information will help people live safely and productively in the affected territories and enable them to take action to implement community-driven recovery initiatives that will tackle their priority needs and directly improve the level of their human security.

While reducing the impact of environmental risks it is very important to promote life-skills education in Chernobyl-affected areas, raise awareness of the population about the significance of adopting life-skills and health-seeking behaviour, and provide information on living safely in conditions of low-dose radiation. As part of this work UNICEF, within the framework of the regional project covering Ukraine, Belarus and Russia, developed a special edition of *Facts for Life (2007)*. The aim of this publication is to help overcome widespread stress, depression and "victim's syndrome" among people in the affected regions and to assist mothers, children and young people to cope with environmental, social and health risks.

The UN Trust Fund for Human Security funded with US$1.6 million the joint United Nations project Enhancing Human Security in the Chernobyl-Affected Areas of Belarus (2010-2012). The overall goal of the project is to enhance human security in the Chernobyl-affected communities of Slavgorod, Chechersk, Bragin, Stolin and Luninets districts. Residents are being given the means to improve income security, minimize radiation exposure and practice healthy lifestyles. The project focuses on specific communities to develop and test new approaches; these can later be extended to cover other Chernobyl-affected areas in Belarus. The following bodies are partners in this project: UNDP, UNICEF, United Nations Population Fund (UNFPA), Ministry of Emergencies of the Republic of Belarus, MES Institute of Radiology, International Foundation for Rural Development, Gomel Regional Clinical Oncology Center, Sakharov's International Ecological University and local administrations.

The overall goal of the UNICEF 2006 – 2010 country programme was to support national plans and priorities to increase children's and young people's opportunities to enjoy their rights to survival, development, protection and participation.

With the support of UNICEF life-skills-based education was introduced into the national school curriculum and further reinforced through peer education programmes. Youth participation in the promotion of healthy lifestyles through such peer education programmes, and also through youth media initiatives, has proved to be effective in building communication channels. The obligatory school programme Vital Safety Knowledge covers issues of personal safety and life-saving skills of school children from the II to X grades and university students[26].

UNDP has developed two disaster risk reduction-related projects: Strengthening Partnerships and Resource Mobilization Mechanisms to Mitigate the Chernobyl Disaster Consequences (2001); and the establishment of a Crisis Management Centre, which aims to develop the country's capacity to handle very large emergencies. UNDP assisted the Government in improving the lives of people affected by the Chernobyl disaster by supporting local efforts to improve economic and social conditions.

In 2003, UNDP helped to prepare and signed the Declaration of Principles for Cooperation for Rehabilitation Programme (CORE) and started a new support project for the programme Cooperation for Rehabilitation.

25 For more information, see http://www.preventionweb.net/files/862_Belarus-report.pdf

26 For more information, see http://www.preventionweb.net/files/862_Belarus-report.pdf

Children and disasters: Building resilience through education

Bosnia and Herzegovina

Hazards and disaster overview

Bosnia and Herzegovina lies in one of the most earthquake-prone areas of the Balkan Peninsula, which is part of the Mediterranean-Transasian seismic belt. Although EM-DAT does not record any large earthquakes, data shows that several events have occurred in the area of Banja Luka.

The country is also vulnerable to disasters including floods, landslides, droughts, extreme temperatures, wildfires, epidemics and wind storms. Floods, wildfires and environmental pollution have a potential cross-border impact.

EM-DAT hazard incidence shows (Table 5) that during (1980-2010), floods accounted for the major share of disasters, with eight events affecting over 328,740 people. This was followed by droughts, which affected over 62,000 people, and extreme temperatures, which killed three people and affected over 10,000 others.

Table 5 Bosnia and Herzegovina summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Drought	2	11.11	0	62,575	298,000,000
Epidemic	1	5.55	0	400	0
Extreme temperature	3	16.65	3	10,000	0
Flood	8	44.44	3	328,740	0
Mass Movement (landslide)	1	5.55	6	403	0
Wildfire	1	5.55	0	0	0
Wind Storm	2	11.11	4	1,090	0
Total	18	100	66	403,208	298,000,000

The data shows that drought-related hazards have also had a big impact on the country, and the drought risk is high in the north-east and south-west. The May 2003 drought affected large parts of Bosnia and Herzegovina and triggered wildfires that caused damage amounting to US$250 million.

EM-DAT shows that during 2001 - 2005 four major flood events were recorded. The flood of April 2004 affected 275,000 people in the country.

The occurrence of landslides in the mountainous parts of Bosnia and Herzegovina is very frequent due to subsurface water flow. Landslides in the Zenica area in 2000 killed seven people, left many families homeless and destroyed the Sarajevo-Pale road. The number of landslides increased considerably during the war and in its aftermath, due to both uncontrolled exploitation of forests and minerals, which changed water and land regimes, and to increased illegal and unplanned construction.

Soil settling due to underground exploitation of minerals also represents a hazard. Salt mining in the Tuzla area has had very harmful consequences, with over 25 per cent of urban areas affected. Large landslides have also occurred in the Breza coal mine, the Koritnik open-cut mine, the Vares mine and steel plant, and the Smreka open-cut mine.

Hazards and disaster overview

Legislation relating to civil protection is currently undergoing major transition to a new framework of laws prepared with the support of UNDP and NATO. Of particular note is the Law on Protection and Rescue, which details the responsibilities and authorities of the Sector for Civil Protection, including with regard to disaster management and disaster risk reduction. It covers people and assets in cases of disasters caused by natural hazards. The Law on Protection and Rescue was passed in May 2008.

The law defines protection and rescue of people and material goods in cases of disasters caused by natural or other hazards in Bosnia and Herzegovina; the execution of international obligations and cooperation in the area of protection and rescue; and the channels of authority and coordination of activities of Bosnia and Herzegovina institutions and bodies, entity administrations involved in civil protection and the authorized civil protection body in Brčko District. The law prescribes the founding of the State Operation Communication Centre and establishment of a 112 emergency number.

Other relevant laws include the Law on Transport of Dangerous Substances in Bosnia and Herzegovina; the Law on Environmental Protection, both of which are at an advanced stage of preparation; the Law on Ministries and other Administrative Bodies in Bosnia and Herzegovina[27],which transfers some civil protection competences from entity to state level and also defines the procedures for approval of military assistance to civilian authorities in case of disasters; the Law on Defence of Bosnia and Herzegovina; the Law on Mine Clearance in Bosnia and Herzegovina; and the Law on the Red Cross Association of Bosnia and Herzegovina. There are several other laws promulgated by the Bosnia and Herzegovina State Parliament with potential bearing during emergencies[28].

In terms of legislation, the two entities -the Republic of Srpska and the Federation of Bosnia and Herzegovina - exercise a degree of autonomy from the state under which they have full independence when it comes to operational matters but are under the mandate of the Ministry of Security of Bosnia and Herzegovina in matters including strategic planning, coordination and international cooperation. The Federation of Bosnia and Herzegovina is highly decentralized, with 10 cantonal governments. Brčko District is a third administrative unit, which has been under international administration. In March 2009, the Constitution of Bosnia and Herzegovina was amended to define Brčko District on the basis of the awards of the Arbitral Tribunal and to ensure the District effective access to the Bosnia and Herzegovina Constitutional Court.

The country as a whole has 14 governance units, 5 levels of administration and more than 150 ministries and governmental agencies. In terms of civil protection structures, the entities are both financially and jurisdictionally autonomous from the state. Each level has its own specific mandate, with the state focusing on civil protection strategy while the entities focus on operational matters.

The current legislation is based on a set of laws defining the roles and competences of all the administrative levels involved in civil protection.

At state level, the Sector for Civil Protection of the Ministry of Security is the central body with competences in, and responsibility for, international cooperation, internal coordination, strategic planning of protection and rescue measures and training programmes. Three departments have been established within the Sector: the Department for Strategic Planning of Protection and Rescue Measures; the Department for Structures and Training; and the Department of International Cooperation.

The Sector for Civil Protection objectives for 2008 - 2009 were the establishment of an effective disaster management and coordination body and Operational 112 Centre; development of strategic documents specified in the state law (Methodology of Risk Assessment, Risk Assessment, and Emergency Response Plan); protection and rescue coordination, including better networking with Ministry of Defence and other authorities; enhanced international cooperation; and harmonization of protection and rescue law with by-laws in Bosnia and Herzegovina.

The Ministry of Security coordinates and manages planning and exchange of data and information, and reports on the risk reduction activities of entities and Brčko District.

The entities and Brčko District, within the framework of their competences in the area of protection and rescue, define, plan, train, organize, finance and execute protection and rescue with the aim of reducing risks and removing or mitigating the harmful consequences of disasters caused by natural or other hazards.

How education is used to promote safety

Current legislation on disaster management provides the opportunity to develop formal education programmes as part of school curricula, but due to the ongoing educational reforms disaster risk reduction has yet to be mainstreamed. Indeed, the education system does not yet address the more basic notion of “protection and rescue”.

Nevertheless, there are some sporadic activities undertaken at the local level – such as visits to schools by fire-fighters, or civil protection or Red Crescent staff – but the approach is neither strategic nor systematic. Other activities include training programmes targeting government officials at state and entity levels, some of which have been developed within the framework of multilateral or bilateral in-

27 Official Gazette of Bosnia and Herzegovina, n. 5/03 and 45/06.
28 Other laws and programmes include: The Law on the Protection of Forests (OGBH, n. 23/03); the Law on Veterinary Science in Bosnia and Herzegovina (OGBH, n. 34/02); The Law on Food (OGBH, n. 50/04); the Law on the Implementation of the Convention on Prevention of Development, Production, Accumulation and use of Chemical Weapons and their Destruction (OGBH, n. 15/06); the Law on the Protection against Radiation and Nuclear Safety (OGBH, n. 88/07); the Bosnia and Herzegovina Strategy for Action against Terrorism (2006-2009); the Program of Protection against Chemical Weapons and Reaction in Case of Disaster and Incidents that include Chemicals (OGBH, n. 80/06); and the Law on Council of Ministers of Bosnia and Herzegovina.

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ternational cooperation.

In order to implement the Framework Law on Protection and Rescue of People and Property in the event of Natural or other Disasters in Bosnia and Herzegovina (Official Gazette of BH No. 50/08), the Council of Ministers of Bosnia and Herzegovina formed the Inter-departmental Working Group for the Development of Risk Assessment Regarding Natural and Other Disasters in Bosnia and Herzegovina. It consists of representatives of state and entity ministries, the Public Safety Department of Brčko District and experts from various fields of governmental and non-governmental sectors and civil society. It is the first time that a risk assessment process, led by the Protection and Rescue Service of the Ministry of Security, has been carried out with a unified methodology on the whole territory of Bosnia and Herzegovina. This process, which involves various national institutions, will lead to the preparation of the document Risk Assessment Regarding Natural and Other Disasters in Bosnia and Herzegovina.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

In the event of disasters, the Ministry of Security cooperates with the Red Cross Association and other humanitarian organizations to manage protection and rescue operations. In February 2008 a protocol was signed with the Red Cross for cooperation over, and financing of, the development of protection and rescue units under the responsibility of the Red Cross through its 20 canton-based and 125 local units. The Law on the Red Cross Association of Bosnia and Herzegovina[29] defines the role and the competences of the Red Cross in cases of disasters caused by natural hazards, epidemics or other emergencies. The Red Cross Association has authority over energy supply, border control, transport of people and goods, as well as broadcast of information.

UNICEF collaboration with Bosnia and Herzegovina in education and disaster risk reduction

As part of the implementation of education reforms, cooperation between local NGOs and ministries of education has resulted in 27 per cent of primary schools adopting and implementing the "child-centred" teaching and learning approach. With support from the European Commission, a network of 30 local NGOs was mobilized to develop common standards, modules and methodologies for the promotion of child rights and peer-education, and ensure the participation of some 15,000 children in community projects and volunteer work.

The goal of the previous UNICEF 2005 – 2008 country programme, which was extended to 2009 to harmonize cycles with other agencies, was specifically aimed at ensuring the inclusion of all children, young people and women in the provision of basic education, health and child-protection services. The programme had three major outcomes: for policy makers and community representatives to provide leadership in developing national policies that contribute to realizing the rights of children, young people and women; for service providers and caregivers to adopt behaviours that facilitate access to education, health and child protection services for the most vulnerable; and for policy makers and community representatives to encourage and facilitate the meaningful participation of children and young people in their communities, including in addressing the risk of landmines.

Following the implementation of the life-skills project in high schools, UNICEF now considers that a similar project focusing on child safety, risk behaviour and life hazards and implemented at primary-school level will yield better results. In addition, UNICEF recognizes that there is a need to educate adults, including parents, municipal officials and teachers, as well as children and young people in appropriate attitudes and skills. To achieve this, schools and the media are recognized as having key importance in the creation of an enabling environment for participation.

Key results are as follows: for municipal governments, civil society and schools to enable an increased number of children and young people to participate meaningfully in their communities and in the monitoring of the State Plan of Action for Children; for 450 primary schools to institutionalize child participation; for media programmes to be developed with the involvement of children and broadcast media; and for communities in 154 areas highly affected by mines to be able to assess, develop and implement responses to risks posed by landmines. This includes mine-risk and small arms and light weapons risk education.

The 2007 evaluation of the country programme's support to the Bosnia and Herzegovina Mine Action Centre found increased institutional capacity. Support to mine risk education will be phased out over the next cycle, while the experience gained in risk reduction methods will be used to improve policy and services related to small arms and light weapons, promotion of child safety and reduction of violence among children.

The current country programme, from 2010 to 2014, includes support in setting up coordination mechanisms and contingency plans for emergency preparedness and response. The 2010 - 2011 work plans on education, health and protection include as one of the activities the coordination of activities and increased capacity of stakeholders for emergency preparedness and response in the relevant sectors.

In 2008, UNICEF initiated training workshops within the United Nations Country Team on emergency preparedness and took the lead in facilitating discussions on cluster coordination. UNICEF is continuing to promote inter-agency coordination for emergency preparedness and is promoting the development of strategies and plans, including on Inter-Agency Standing Committee cluster coordination. In collaboration with the UNICEF CEE/CIS Regional Office, UNICEF BiH conducted an emergency preparedness and response training workshop for all staff in July 2010. A coordination meeting with emergency Focal Points from other United Nations agencies is also planned in cooperation with the United Nations Resident Coordinator's office.

UNICEF is also planning to work more closely with national authorities to develop national capacities and facilitate coordination on emergency preparedness and disaster risk reduction.

UNISDR collaboration with Bosnia and Herzegovina

Bosnia and Herzegovina has officially appointed an HFA Focal Point as a step in its implementation and pursuit of HFA objectives and strategic goals. During the spring of 2007, and within the framework of SEEDRMI, direct communication was established between Bosnia and Herzegovina national authorities and UNISDR.

29 Official Gazette of Bosnia and Herzegovina, n. 49/04.

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As a follow-up, Bosnia and Herzegovina actively participated in the first session of the Global Platform for Disaster Risk Reduction, held in June 2007, and has informed UNISDR of its intentions to establish an official National Platform in the near future.

In August 2009, it hosted a national workshop in collaboration with UNISDR, World Bank, CADRI, DPPI SEE and UNDP to promote national capacities to establish a National Platform. The workshop was also supported by the Global Facility for Disaster Reduction and Recovery.

The DPPI SEE has initiated and supported a joint fire-fighting system in the South East Europe region. Through this joint fire-fighting unit, DPPI SEE has trained fire-fighters from Bosnia and Herzegovina.

Bulgaria

Hazards and disaster overview

Bulgaria is vulnerable to a number of disasters caused by natural hazards, but the country is most susceptible to floods. EM-DAT shows (Table 6) that during 1980 - 2010 floods accounted for the major share of disaster events and by far the largest financial losses[30]. The country is also vulnerable to other disasters caused by natural hazards, including droughts, extreme temperatures, landslides, wildfires and wind storms. Furthermore, Bulgaria has historic records of major earthquakes which, after considering their return period, show that there is also a high probability of earthquake occurrence.

One of the most severe floods occurred between 25 May and 12 August 2005. It was the worst flooding in the past 70 years, and the rivers Yantra, Kamchiya, Roussensky Lom and their subsidiary streams burst their banks, affecting about 70 per cent of the territory of Bulgaria. Losses were enormous in the affected areas. According to the Ministry of Agriculture, over 10,500 animals drowned. Some 3,645 inhabited buildings were declared unsuitable for habitation[31], and residents had to be moved to temporary shelters, mostly in schools or with host families. A State of Emergency was declared in the affected areas and the Government established an Intersectoral Coordination Committee at central level. Reported damage from the 2005 flood was more than US$260 million[32].

Table 6 Bulgaria: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Drought	2	5.71	0	0	0
Earthquake	5	14.28	4	3,587	0
Extreme temperature	7	20.00	43	393	50,000
Flood	13	37.14	52	13,560	458,000,000
Wildfire	4	11.42	10	176	20,054,000
Wind Storm	4	11.42	2	5,850	0
Total	35	100	111	23,566	528,054,000

30 It should be noted that there are no economic loss statistics for a number of disaster events, including earthquakes.
31 Information source: the Bulgarian National Association of Municipalities.
32 EM-DAT Emergency Disaster Database http://www.em-dat.net/glossary.htm (2007)

Landslides are also common in Bulgaria because of its hilly and mountainous terrain. One major landslide occurred on 17 December 1965 in the Rila mountains, killing 11 people.

Damaging wind storms occur quite frequently. On 24 December 2001, a wind storm affected Shumen, Dobrich, Stara Zagora and Sofia, killing two people, while in November and December 1998 cold waves affected the Montana and Sofia regions, killing three people, injuring 23 and affecting 300 others. Wildfires have also been reported in Bulgaria. On 1 July 2000, a wildfire which struck Haskovo, Yambol, Bourgas, Stara Zagora and Plovdiv killed seven people, left 150 homeless and caused damage of US$17.6 million[33].

Disaster management structure and legislation

Following the devastating floods of 2005, the Bulgarian Government initiated a detailed reform of the country's protection and rescue system[34]. As part of the reform the Disaster Protection Act was adopted, the State Agency for Civil Protection was dissolved and a new ministry, the Ministry of State Policy for Disasters and Accidents (renamed the Ministry of Emergency Situations in 2008), was established. The MES[35] undertook all civil protection activities in the event of disasters, coordinating the efforts of the executive administration and other bodies of governance, as well as legal entities, NGOs and citizens for disaster management.

The new Government elected in mid-2009 closed down the MES in order to optimise the administration. Consequently the Civil Protection unit, which was responsible for implementing state policy in the area of protection of the population in the case of disasters and accidents, was included as a separate chief directorate under the Ministry of Interior.

The Law on Protection in Case of Disasters, adopted in 2006, established the regulations covering the duty to preserve life and health, and protect the environment and property in the event of a disaster. The Act stipulates the activities related to the coordination and management of the rescue and emergency recovery efforts among the competent authorities. According to this act overall coordination and management for disaster protection is under the Ministry of Interior in line with the National Programme on Protection in Case of Disasters and annual plans adopted by the Council of Ministers. It is implemented by the Ministry of Interior together with other ministries, administrations, the National Association of the Municipalities in the Republic of Bulgaria and the Bulgarian Red Cross. A national system of early warning announces the executive authorities during disasters.

The Chief Directorate Civil Protection has a well-developed structure with a central administration, 28 regional directorates, a National Situation Centre, Central Laboratory Complex and 15 structures to carry out rescue and emergency recovery activities in the event of disasters.

The Ministry of Interior maintains the emergency number 112. Information on different natural hazards can be found on the specialised website of the Chief Directorate Civil Protection.

The aims, priorities and tasks of the prevention activities are set in the National Programme for Protection in Case of Disasters. Planning of disaster prevention is carried out at municipal, regional and national level. Preventive measures for disaster risk reduction include the establishment and/or modernization of systems for monitoring, forecasting and

33 Ibid.
34 From "The Structure, Role and Mandate of Civil Protection in Disaster Risk Reduction for South Eastern Europe - South Eastern Europe Disaster Risk Mitigation and Adaptation Programme", UNISDR, 2009.
35 Authority for protection of the population in the event of accidents or disasters has subsequently been transferred to the Ministry of Interior. It has a well-developed structure with central administration, 28 regional directorates, a National Situation Centre, Central Laboratory Complex and 15 structures for rescue and emergency recovery in the event of disasters.

early warning.

Other relevant legislation involving protection against disasters includes the Crisis Management Act; the 112 Act; the Local Administration Act; the Waters Act; the Defence and Armed Forces Act; the Ministry of Internal Affairs Act; the Public Health Act; the State Administration Acts; other special laws; and related secondary legislation.

How education is used to promote safety

The Law on Protection in Case of Disasters ensures that trainings and exercises are organized for central and territorial executive authorities, reaction forces and the public.

There is a Centre for Professional Training of Rescuers, which was licensed by the National Agency of Professional Education and Training. Its educational and practice facilities are located in the town of Montana. All newly-appointed rescuers are trained there and after successfully passing the course they acquire the professional qualification Rescuer in Case of Disasters, Accidents and Catastrophes.

With regards to disaster prevention, the reduction of natural hazards is included in the regular school curricula. According to the Law on Protection in Case of Disasters, the education system must include regular tuition on disaster protection and first aid.

The Minister of Education, Youth and Science, in coordination with the Minister of Interior, approves education programmes and teaching materials for kindergartens and schools, and plans for preparedness trainings for education managers and teachers. School and kindergarten authorities are responsible for implementing these programmes and organize a minimum of two trainings and simulations every year.

Municipality mayors organize public disaster education on a voluntary basis.

Materials for pre-school children, including a colouring book which teaches children about the dangers associated with disasters and how to behave during them, have been produced.

Another methodology for civil protection education at schools was developed through UNDP funding. The initiative includes teaching material for each stage of schooling in Bulgaria: elementary, secondary and higher.

As mentioned above, the EU emergency number 112 is already operational in Bulgaria. Moreover, a special national free emergency number (hotline) for children 116 112 has been launched recently with the help of UNICEF.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

In addition to organizations and bodies already mentioned, national partners involved in disaster risk reduction include the Central Laboratory for Seismic Mechanics and Earthquake Engineering; and the European Centre for Risk Prevention, in Sofia.

UNICEF collaboration with Bulgaria in education and disaster risk reduction

The UNICEF 2006 - 2009 country programme focused on contributing to the Government's ongoing efforts to improve the efficiency and use of budget allocations for children. One of the programme components was support for national authorities in conducting a comprehensive review of public expenditure on health, education, social protection and welfare. Another component contributed to strengthening the life-skills component within the existing school curricula and through non-formal education.

In order to improve coordination and cooperation in the field of emergency preparedness, a meeting was organized in 2010 between the Bulgarian Civil-Military Co-operation unit, UNICEF, the Office of the United Nations High Commissioner for Refugees (UNHCR), UNDP, Bulgarian Red Cross, International Organization for Migration, and the Chief Directorate Civil Protection.

UNISDR collaboration with Bulgaria

Bulgaria has officially appointed an HFA Focal Point, the Ministry of Interior, as a step forward in its implementation and pursuit of HFA objectives and strategic goals. Furthermore, Bulgaria has informed UNISDR about the existence of an officially-designated National Platform: the Ministry of Emergency Situations. Bulgaria also actively participated in the Euro-Mediterranean Workshop on Disaster Reduction at School, held in October 2007.

Within the framework of regional cooperation, and in collaboration with the Bulgarian national authority and the DPPI SEE, UNISDR organized in June 2008 a seminar on Awareness/Education of Civil Population and Schools on Disaster Management with the aim of providing knowledge on disaster management to schools and public services, and community education to middle managers from national and local disaster management authorities.

Croatia

Hazards and disaster overview

Croatia's diverse terrain, with flat plains, rolling hills, densely-wooded mountains and rocky coastlines, is vulnerable to a number of natural hazards. Floods, earthquakes, extreme temperatures, wildfires and wind storms are all present, although EM-DAT shows (Table 7) that during 1980 - 2010 floods accounted for the major share of disaster events, followed by wildfires. Four separate periods of extreme temperatures caused the greatest number of deaths of any hazard, killing 833 people.

Analysis of the economic losses shows that the country is highly vulnerable to droughts and drought-related hazards. Floods and earthquakes have affected a relatively larger number of people, but economic losses have not been reported in the EM-DAT database. Droughts and extreme temperatures caused the highest economic losses, with the drought of February 2003 severely affecting the county of Vukovar-Srijem, causing reported damage of around US$330 million.

Croatia has long historic records of major earthquakes which show that, after considering their return periods, there is a high probability of earthquake occurrence. Among eight historical earthquakes of Intensity IX or X (Mercalli-Cancani-Sieberg scale [MCS]) in the fifteenth, sixteenth and seventeenth centuries, the strongest and most important was the great Dubrovnik earthquake of 1667.

The largest recent seismic event, the Ston-Slano earthquakes of 1996, completely destroyed three villages and caused heavy damage in a number of southern Dalmatian cities. It was the largest seismic series in the greater Dubrovnik area since the 1667 earthquake.

The Ministry of Environmental Protection, Physical Planning and Construction conducts inspections of adherence to building codes and is authorized to impose fines and stop construction if these codes are not followed.

Croatia is highly vulnerable to floods. In September 2001, a flood affected 1,200 people.

In terms of economic loss, wildfires are also a significant hazard. The wildfires of August 2000 affected the Split, Metkovic and Slano (Omis) regions, and caused losses of US$17.75 million; from 18 to 23 July 2003, wildfires affected the Dubrovnik region, incurring losses of US$20 million.

Table 7 Croatia: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Drought	1	5.55	0	0	330,000,000
Earthquake	1	5.55	0	2,000	0
Extreme temperature	4	22.2	833	200	240,000,000
Flood	6	33.3	0	3,160	0
Wildfire	5	27.75	13	26	37,750,000
Wind Storm	1	5.55	2	0	0
Total	18	100	848	5,386	607,750,000

Disaster management structure and legislation

With the establishment of the Croatian Platform for Disaster Risk Reduction on 9 November 2009, the country took a significant step in making disaster risk reduction both a national and local priority with a strong institutional basis for application. The Platform, which is a permanent forum in the form of an annual conference, was set up at the proposal of the country's HFA Focal Point, the National Protection and Rescue Directorate (NPRD).

Legislation covering disaster management is largely covered by the Protection and Rescue Act, which came into force in 2005. The act largely superseded a number of separate laws and regulations that established the basic goals and operational objectives for organizing civil protection, including the areas of intervention, and the methodology and content of plans relating to protection and rescue.

The Protection and Rescue Act[36] established the NPRD, which is an independent, professional and administrative organization that prepares, plans and manages operational forces and coordinates the operation of all participants in the protection and rescue system. The NPRD started functioning on 1 January 2005 and is the central-level body with primary responsibility for the coordination of forces.

Under the present system, the NPRD includes regional offices located in each of the 20 counties and the city district of Zagreb, along with its central body. The organization is divided into the following five sectors: the Sector for the 112 System; the Civil Protection Sector; the Fire-fighting Sector; the Fire-fighting Protection and Rescue School; and the Personnel, Legal and Finance Sector.

The Directorate's regional offices, namely the County Protection and Rescue Offices, each includes a county 112 centre and a Prevention, Planning and Supervision Department linked to the Civil Protection Sector and the Fire-fighting Sector at local level.

The Sector for the 112 System is responsible for the information flow to all the actors involved in protection and rescue regarding all possible threats and their consequences. The service, which also benefits from the information of government institutions addressing issues linked to natural and technological hazards, such as that provided by the Meteorological and Hydrological Institute of Croatia, keeps logs on the unfolding emergency events. Warnings are communicated to the public by means of sirens.

The Government of Croatia adopted a national rescue and protection plan in 2010. The plan includes the duties and responsibilities of all governmental bodies, institutions and the private sector in cases of disaster.

How education is used to promote safety

Knowledge of hazards and risks is included in the school curricula, although not yet at a sufficient level. Previous initiatives to include disaster risk reduction in school curricula have often failed due to the children being "overloaded" with school material, making it difficult to introduce new topics into existing curricula.

In response, the NPRD has developed a National Action Programme to Educate Children in Protection and Rescue, which has been recommended for implementation in kindergartens and elementary schools by the Agency for Education and Development and the Ministry for Science, Education and Sport.

This programme has been developed for primary-school children of the I and II grades (involving around 95,000 children in 871 schools) and for pre-school children (from a total of 623 kindergartens). The programme has both theoretical and practical components.

Children are also informed about floods and earthquakes, on what causes them and the dangers they pose, as well as on proper modes of behaviour during and after their occurrence. The training includes an evacuation exercise involving the whole class from the school or kindergarten. Relevant educational material has been developed as well as part of the programme. For the last two years NPRD representatives have been visiting elementary schools and providing trainings for school principals and scholars. They have also given informative lectures to the I and II grade pupils, thus providing extra-curriculum disaster risk reduction education for children.

In addition, taking into account that the elementary- and secondary-school curricula is currently under revision/development, the NPRD has partnered the Ministry of Science, Education and Sport to mainstream disaster risk reduction into school curricula, i.e. within certain subjects such as geography, history, chemistry, biology and physics, etc. Furthermore, the Government of Croatia has adopted, among others, a recommendation in which the Ministry for Science, Education and Sport is mandated to mainstream disaster risk reduction into the national education curriculum by establishing a Curriculum Revision Working Group, composed of representatives

36 Other pieces of legislation which established the National Protection and Rescue Directorate are the Law on Organization and Jurisdiction of the Government Administration, and the Decree on the Internal Organization of the National Protection and Rescue Directorate.

from the Ministry for Science, Education and Sport, the NPRD, the Meteorological and Hydrological Service, the Republic Seismological Survey, other respective line ministries, the Croatian Red Cross, expert organizations and individuals. The recommendation was made at the National Policy Dialogue on Disaster Risk Reduction, which was organized by UNDP Croatia, the NPRD and the Meteorological and Hydrological Service of Croatia in June 2010 in Zagreb, Croatia, within the EU-funded Regional Programme on Disaster Risk Reduction in CEE.

Topics such as fire protection, civil protection and crisis management may be studied as university majors, although so far only the University of Applied Sciences Velika Gorica is tackling disaster management as part of a crisis management study programme.

The Meteorological and Hydrological Service of Croatia is also providing education and public outreach programmes targeted at increasing awareness of hydro-meteorological hazards. They include trainings targeted at disaster risk reduction managers and authorities and operational emergency response managers; educational modules and training programmes targeted at the general public; trainings for the news media; and collaboration with schools and universities to develop educational programmes and curricula which include knowledge of hydro-meteorological hazards.

Croatia intensively uses simulation exercises to validate preparedness activities and disaster response operations. In the NATO framework, exercises Taming the Dragon - Dalmatia 2002 and Idassa 2007 have been organized in Croatia with many lessons learned for member countries. Croatia has also participated in the NATO protection and rescue exercises Bogordosk 2002, Ferghana 2003, Dacia 2003, Joint Assistance 2005 and Uusimaa 2008. Since 2005, Croatia has actively participated in the NATO Crisis Management Exercises. So far three exercises have been organized (CMX OS, 08, 09). On the NATO HQ level, simulation exercises Green Cloud 2006 and Amber Fog 2008 have been organized with active Croatian participation.

Recently, Croatia has been actively participating in the field exercises of the EU Civil Protection Mechanism, including Huromex 2008, Danubius 2009 and TEREX 2010. The field exercises have an objective to strengthen EU responses to major disasters inside and outside the EU.

On the regional level, under the Civil Military Emergency Planning Council for South Eastern Europe (CMEP SEE), numerous tabletop exercises have been organized with active participation from Croatia. Under the South Eastern Europe Defense Ministerial Initiative, South Eastern Europe Simulation (SEESIM) regional exercises have been organized (SEESIM 02, 04, 06, 08 and 10). Croatia actively participated in these exercises, which had as a main objective the strengthening of civil-military cooperation in disaster response.

Furthermore, numerous exercises have been organized with neighbouring countries to demonstrate and test joint preparedness for cross-border accidents.

The Croatian National Protection and Rescue Directorate is a partner of the EU-funded Safe Quake project “Improvement of the population’s post-disaster behaviour living in urban areas with high seismic risk”. Following the approval of the Safe Quake project in September 2009, Croatia established the national project team and started preparing the first project actions. They included drafting the population surveys questionnaire, selecting the survey companies and designing the project web page. The project activities were officially started in Brussels in January 2010.

Many national exercises have also been organized. Biskupija 2010 was conducted in April 2010 to demonstrate the possibilities of regular protection and rescue forces providing assistance and rescue services to populations in danger, and protecting the environment in case of a major disaster caused by a man-made hazard. In January 2010, the NPRD experts developed and analyzed the evacuation exercise Procesor 2010 in two secondary schools in Bjelovar, with the participation of 400 students, teachers and administrative personnel. The exercise objective was to validate evacuation and rescue plans for both schools.

On 31 May 2011, the Lovre pl. Matačić elementary school in Zagreb hosted a ceremony to award the best art and literary works by Croatian elementary-school children on the subject Disasters and Emergency Response. The ceremony was organized by the National Protection and Rescue Directorate and the host school. The invitation for submission of art and literary works of elementary school pupils in Croatia was launched in December 2010 by the National Protection and Rescue Directorate, as part of a children’s education programme aimed at raising children’s awareness regarding disaster risks to ensure safe conduct and develop a security culture. Pupils could compete in one of two age categories, for grades 1-4 and grades 5-8, producing works of art or literature. The topics were related to disasters caused by natural or man-made hazards occurring in either Croatia or elsewhere in the world and the emergency services’ response to these events.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

- Key national partners involved in disaster risk reduction include the NPRD, the Meteorological and Hydrological Service, the Republic Seismological Survey, Croatian Waters, Croatian Forests and the Croatian Red Cross.

- Croatia established a National Platform in 2009 for disaster risk reduction as a permanent forum for the exchange of opinions and presentation of views, proposals and achievements regarding disaster risk reduction in all areas of human activity. The goal of the Platform is to provide guidance in integrating disaster risk reduction in state policies and raising awareness of the safety culture, primarily through education

- The second annual Croatian Platform Conference, held in October 2010 at the Croatian Military Academy in Zagreb, gathered representatives from the following: central state administration bodies, the Croatian Academy of Sciences and Arts, companies and public corporations, NGOs dealing with protection against disasters and protection of the environment, and representatives from religious communities. Among the main topics discussed at the conference were: management in emergency situations, the role of science in reducing disaster risk; climate change; raising awareness on hazards and the development of a safety culture (including education, the role of the media and promotional activities); early warning and capacity development for response to emergency situations and disasters; and international

cooperation in disaster risk reduction. At the end of the second Croatian Platform Conference, the UN Assistant Secretary General for Disaster Risk Reduction, Margareta Wahlstrцm, expressed her satisfaction with the organization and quality of the Croatian Platform, while stressing the importance and necessity of education and prevention in order to minimize the consequences of disasters caused by natural hazards.

UNICEF collaboration with Croatia in education and disaster risk reduction

UNICEF is currently in its 2007 – 2011 country programme, which has the overall strategic intent of improving the promotion, protection and fulfilment of child rights through tackling the interrelated issues of disparities, social exclusion and violence against children. In Croatia, the UNICEF field office has been transformed into a self-funded entity and, as such, programme goals are specific and there are no direct activities addressing disaster risk reduction.

During the previous period, the Croatian Government endorsed the new National Plan of Action for Child Rights and Interests 2006 – 2012. It represents a comprehensive set of measures to improve child rights fulfilment and protection, with special reference to the issues raised in the concluding observations of the Committee on the Rights of the Child World Fit for Children outcome document and other international and national commitments to children.

Although it was recognised that Croatia is moving in the right direction, there is still room for improvement. There is a need for better parenting care, reduction of institutionalization and violence, more rigorous and systematic child rights monitoring, as well as targeted measures to make public services socially efficient and backed up by appropriate and targeted resources allocated for disadvantaged children.

The major achievement during this period was the transformation of UNICEF's presence in Croatia from a regular UNICEF field office into a self-funded entity.

The 2007 – 2011 country programme is consistent with the UNDP programme cycle and with the national development plan. Although Croatia has not completed a Common Country Assessment/UNDAF (CCA/UNDAF), the intended programme strategy and anticipated results have been coordinated with relevant United Nations agencies, including the World Bank. In the education sector, continuation of work on violence in schools and support to the development of alternatives to residential institutions for vulnerable children is to be assured.

UNICEF will continue to work under the overall coordination of the Ministry of Foreign Affairs and European Integrations. Key partners from the Government include the Ministry of Health and Social Welfare; the Ministry of Science, Education and Sports; the Ministry of Family, Veteran's Affairs and Intergenerational Solidarity; the Institute for Schooling; the Ombudsman for Children; the Office for Human Rights; and the State Bureau for Statistics. From civil society, the main partners will be professional associations and parents' associations, as well as NGOs directly dealing with violence against children.

The particular strength of the UNICEF presence in Croatia is its strong partnership with the private sector and mass media, which will continue as a major driving force for change.

UNISDR collaboration with Croatia

Croatia has officially appointed an HFA Focal Point, the National Protection and Rescue Directorate, as a step in its implementation and pursuit of HFA objectives and strategic goals. Furthermore, Croatia informed UNISDR of the establishment of its National Platform for disaster risk reduction in November 2009.

Within the framework of regional cooperation, and in collaboration with the Croatian national authority, the United Kingdom's Bournemouth University and the DPPI SEE, UNISDR held the following two events in 2008: a specialized training which aimed to provide middle managers and practitioners with a familiarization of the planning process and exchange of best practices in drawing emergency response plans; and a regional disaster management course for senior disaster management experts to train in and practice disaster response with an aim of strengthening cooperation among all participants in protection and rescue activities.

Croatia developed its National Platform in close collaboration with UNISDR. As part of the National Platform activities, Croatia organizes an annual national meeting on disaster risk reduction to create awareness of disaster risk reduction issues. In the context of exchanges and knowledge on disaster risk reduction, Croatia is the co-chair of the European Forum for Disaster Risk Reduction (EFDRR)[37].

In February 2011 the city of Bjelovar joined the UNISDR campaign Making Cities Resilient: My City is Getting Ready!

Moreover, Croatia in collaboration with UNISDR, the World Bank, CADRI and DPPI CEE organized in September 2009 the first CEE regional workshop on National Platforms' establishment and capacity-building. The workshop was also supported by the Global Facility for Disaster Reduction and Recovery within the framework of SEEDRMAP.

37 The European Forum for Disaster Risk Reduction serves as a forum for exchanges at the regional level.

Georgia

Hazards and disasters overview

Georgia lies in a region with moderate to very high seismic hazard[38]. Earthquakes have affected large numbers of people and caused significant economic loss over the past 20 years; the most devastating were the earthquakes of 1991 and 2002. Georgia is also vulnerable to natural hazards including floods, droughts, mud flows, debris flows, landslides, avalanches, hail and wind storms. In the mountainous areas, floods, mud flows, landslides and avalanches are frequent, often triggered by strong rainfall accompanied by rapid snow melt. Large floods devastate the lowland plains. In many areas soil and vegetation are degraded due to overuse and, together with deforestation, this increases the erosion hazard. EM-DAT shows (Table 8) that during (1980 - 2010), floods accounted for the major share of disaster events, followed by earthquakes.

Analysis of disaster data shows that Georgia is severely affected by earthquakes. An earthquake in the Tbilisi region on 25 April 2002 killed 7 people, affected over 19,000 others and caused an economic loss of US$350 million. This was followed by a magnitude 6.5 earthquake on 15 June 1991 in the Dzhava-Tskhinvali region, which killed 8 people and affected 3,740 others.

Floods are also very frequent in Georgia. The February 1987 flood in the Tbilisi region alone killed 110 people, affected 36,000 others and caused an economic loss of US$546 million. In 1997, the floods in the Tbilisi-Gori-Kvemo-Kartli region killed 7 people, affected 500 others and incurred a reported economic loss of US$29.5 million. The only reported drought was in the Kakheti-Kvemo-Kartli region in 2000, which affected almost 700,000 people and caused an economic loss of US$200 million.

Table 8 Georgia: Summary data on disasters caused by natural hazards (1980 -2010), including number of human casualties and economic impact.

Disaster	Number	Percentage	Total deaths	Total affected	Economic loss
Drought	1	7.14	0	696,000	200,000,000
Earthquake	4	28.57	15	30,212	350,000,000
Flood	8	57.14	9	3,990	33,856,000
Wind Storm	1	7.14	0	900	0
Total	14	100	24	761,102	583,856,000

38 GSHAP (1998). Seismic Hazard Assessment for the Caucasus Test Area, by Serguei Balassanian et al. (http://www.seismo.ethz.ch/gshap/caucas/caucas.html).

Disaster management structure and legislation

The organisational structure for Disaster Risk Management in Georgia is complicated. The main forum for developing policies and providing broad-based advice to the Head of State is the National Security Council (NSC) of Georgia with the mandate to coordinate efforts and activities of relevant ministries and government institutions in the sphere of crisis management, preparation and response in relation to any emergency that may occur. At present, the NSC has been tasked to develop the so-called "Threat Assessment" for Georgia in cooperation with scientists and respective academic institutions.

The state structure directly authorized and responsible for management of emergency situations arising from disasters caused by natural or technological hazards is the Emergency Management Department (EMD) of the Ministry of Internal Affairs of Georgia. The main functions of the EMD are defined in the Law on Protecting the Population and Territory from Natural and Technological Emergency Situations. The EMD has its headquarters in Tbilisi and in its territorial structures in the regions (provinces), cities and districts. The territorial structures at all levels are part of the relevant executive authorities. One of the key competencies of the EMD is the establishment of an Expert-Consultative council for the aversion of emergency situations caused by natural or technological hazards, disaster mitigation and recovery.

Resources are allocated through the budgets of central and autonomous republics and through the administration for funding emergency response forces. The central budget, as well as the budgets of autonomous republics, has a Reserve Fund from which the dedicated resources for the "elimination" of disaster consequences are allocated. Money for assessment, recovery and response is allocated in the State Budget and in the budgets of administrative regions.

The Government, despite the lack of funds, expertise and human resources, undertakes efforts to improve the country's preparedness to disasters. Despite the absence of a strategic document to regulate and harmonize the work in this field, a number of regulations and decisions have been developed in the last few years.

The major document providing guidelines on mitigation and avoidance of the impacts of emergencies at all levels is the Law on Protection of the Population and Territories in Cases of Emergency, which was adopted in 2007. Within its framework, the National Natural and Technogeneous Emergency Response Plan (hereinafter, National Response Plan), as a cross- and multi-sectoral document, has been developed. The Governmental Commission for Management of Cases of Emergency is a deliberative body which coordinates a common system of prevention of emergencies and the mitigation or avoidance of their impacts. Its working body is the Emergency Management Department of the Ministry of Internal Affairs. The Ministry of Education and Science is one of the signatories of the National Response Plan.

Activities in Georgia in the field of disaster management are guided by the following legislation and regulatory acts:

- 2007 Law on Protecting the Popula- tion and Territory from Natural and Technological Emergency Situations.
- 2008 National Response Plan for Natural and Man-Made Emergency Situations.
- Law on the State of Emergency.

These are supplemented by a number of normative acts. They include: Decree No. 66 on "Counter-measures to the development of disastrous natural geological processes and protection of underground hydrosphere and lands" (1997); Decree No. 779 on the "Promotion of implementation of the UN programme on management of emergency situations" (1998); Decree No. 542 on the "Adoption of the risk assessment document for the period 2007 - 2009" (2007), which paid special attention to such natural hazards as earthquakes, floods, landslides, avalanches and forest fires as well as to technological and epidemiological risks in Georgia.

How education is used to promote safety

Components of disaster risk reduction are taught at all three levels of the education process (primary, basic and secondary) in a coordinated way, taking into account the age-related qualities and capabilities of students.

Within the framework of the natural science curriculum, students are taught to identify safe and hazardous environments and rules of behaviour in cases of emergency.

Within the framework of the social science curriculum, the study of geography assists students in acknowledging the linkage between the necessity to protect the environment and its significance for sustainable development of society. The main emphasis is laid on the knowledge students should possess about natural and man-made hazards, and their causes and effects, and on developing the right attitude towards the environment. In addition, within the framework of an elective course on geographic research students are able to conduct research on disasters common to their surrounding environments.

Civil Defense and Safety is a newly-introduced subject and is taught in the IV, XIII and XII grades for one semester. For the IV grade the main direction is to learn how to behave in an unknown environment; in the XIII grade it is to prepare for and respond to disasters; and in the XII grade pupils learn about the evacuation rules in case of an emergency and provision of first aid.

Within the framework of the project Supporting Disaster Risk Reduction amongst Vulnerable Communities and Institutions in Southern Caucasus, implemented jointly by the Ministry of Education and Science of Georgia, the Emergency Management Department of the Ministry of Internal Affairs and UNICEF, a specially-established Technical Expert Group has initiated a review of the national curriculum with an aim to integrate disaster risk reduction into the Head of Class Programme for grades V to IX. The programme is currently being developed by the National Curriculum and Assessment Centre of the Ministry of Education and Science, whereby a total of 12 hours of disaster risk reduction will be introduced per grade (V - IX) in schools countrywide from the next academic year. A special training programme and methodological guide for teachers (heads of classes) are being developed introducing interactive methodologies of teaching disaster risk reduction. The programme will enable teachers to apply interactive methodologies in teaching disaster preparedness and risk reduction in schools. As part of this process, school principals and administrations will also receive training on disaster risk reduction and on the importance of school disaster preparedness activities.

Simultaneously, the Technical Expert Group - lead by the national expert on

disaster risk reduction in education - is developing an action plan on incorporating disaster risk reduction under different subject areas for the next curricula revision and other educational policies.

The staff scientists of the National Environmental Agency are associated professors in institutes of Georgia and are adopting disaster-related curricula into existing study programmes. They are especially reviewing international practice in disaster risk management, and early-warning systems and their importance.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

The main forum for developing policies and providing broad-based advice to the head of state is the National Security Council of Georgia, which has the mandate to coordinate the efforts and activities of relevant ministries and government institutions in the sphere of crisis management, as well as preparation and response in relation to any emergency that may occur. At present, the NSC has been tasked to develop the so-called "Threat Assessment" for Georgia in cooperation with scientists and respective academic institutions.

There are various agencies and institutions which participate at different stages of a disaster management cycle, such as the Ministry of Environmental Protection and Natural Resources (including the National Environmental Protection Agency), the Institute of Geophysics, other scientific and academic institutions, local governance bodies and individual experts, etc. Moreover, there is no agency in the country involved in the whole disaster management cycle, starting with preparedness, prevention, mitigation, response and recovery. Efforts are scattered in this sector regardless of a unanimous understanding of an urgent need for better coordination which will not only help avoid economic losses but will also save lives.

The National Environmental Agency is involved in the implementation of the following areas of scientific research and studies in Georgia: global climate change, risk management of natural (geological, hydro-meteorological, hydro-dynamical) and anthropogenic hazards, and integrated coastal zone management.

The Institute of Geophysics, together with the Ministry of Environmental Protection, compiled a natural disaster database for 12 disasters (including earthquakes, landslides, debris flows, avalanches, floods, and several hydro-meteorological events). This needs further replenishment, along with Geographic Information System (GIS)-based hazard maps of Georgia for each of the 12 disasters types and preliminary maps of seismic hazard risk.

In 2009 - 2010, with the financial support of SDC, UNDP hired a disaster risk reduction officer whose main task was to promote national coordination in disaster risk reduction and establish a National Platform on disaster risk reduction. One of the achievements of this endeavour was the formation of the so-called "Think Tank", which brought together the lead experts of academic and research institutions with knowledge and interest in disaster risk reduction.

The Georgian Government, United Nations, various international organizations and donor countries have decided to combine their efforts to build sustainable national disaster management capacities, with UNDP in the leading role. Three projects have been developed and implemented: the National Disaster Management Capacity Building Project (GEO/99/012); Pilot Rehabilitation Activities for the Tbilisi Earthquake; and Drought Relief.

A United Nations Disaster Assessment and Coordination (UNDAC) team visited Georgia in June 2005. The mission found that Georgia's institutional disaster management capacities were limited in terms of disaster prevention, mitigation, preparedness and response. The system lacked the human, financial and material resources as well as an overarching crisis management legislation to respond effectively to disasters. UNDAC recommended creating a permanent political and policy-making body and a permanent operational entity within the existing institutional framework for disaster management.

The UNCT Contingency Planning Focal Points Group produced a revised UNCT Contingency Plan in September 2009. The revised Contingency Plan is outlining immediate response tasks for the UNCT based on a multi-hazard risk analysis, thus replacing previous draft United Nations plans for the country based on different separate risk analysis and response scenarios. However, due to continued outbreaks of viral influenzas, and the specific public and animal health issues in preparedness and response, the UNCT Pandemic Influenza Plan (2006) remains in force as a stand-alone plan.

UNICEF collaboration with Georgia in education and disaster risk reduction

UNICEF has worked in Georgia since 1993. The UNICEF 2006 - 2010 country programme focused on early childhood care and development, and child protection, advocacy and social monitoring for children's rights, and contributes to the achievement of the Millennium Development Goals and the ongoing national social reform process in the area of child care, health and education. The development of the country programme document for 2011 – 2015 was recently approved by the Executive Committee. It focuses on integrated and inclusive systems for children and social policy as well as on child rights monitoring and communication. The country programme will be a key component of the broad United Nations partnership described in the UNDAF, which among its three priority areas includes reduced disaster losses in lives and in the social, economic and environmental assets of communities and the country through a preventive and proactive approach to risk management.

Furthermore, in April 2010 UNICEF started to implement the sub-regional project Supporting Disaster Risk Reduction amongst Vulnerable Communities and Institutions in Southern Caucasus. The project's main goal is to support strategies that enable communities and institutions to better prepare for, mitigate and respond to disasters and build a safer and more protective environment for children. The project aims to facilitate mainstreaming of disaster risk reduction in the ongoing review of the national curriculum. The key partner in the project implementation is the Ministry of Education and Science. The project will reach more than 31,000 children in the six targeted regions of Georgia.

Among others, key interventions include:

- Advocacy and awareness-raising around the Hyogo Framework for Action.
- Strengthening of the existing disaster risk management policies and plans through disaster risk reduction and education-specific inputs.
- Advocacy and support for the inte-

gration of disaster risk reduction in education, including the national school curriculum.

- Equipping children and parents with relevant knowledge, skills and techniques to strengthen their capacities to protect themselves from the impacts of future disasters.
- Supporting school-based disaster prepar edness through the introduction of school preparedness plans, emergency school committees, emergency brigades and non-structural mitigation, etc.
- Providing relevant information, guidance and tools to teachers, school staff and disaster management officials to undertake disaster preparedness and risk reduction measures.
- Collection and dissemination of good practices and success stories related to disaster risk reduction in education.

UNICEF is part of the Disaster Management Team (DMT) in Georgia, which was under the leadership of the United Nations Resident Representative until the end of 2006. In 2007, the DMT was replaced by a United Nations Contingency Planning Focal Points Group. The UNDP Disaster Risk Reduction Advisor coordinates this group and its interaction with the United Nations Country Team (UNCT). On behalf of the UNCT, the Contingency Planning Focal Points Group manages the practical planning process by ensuring that agency and cluster plans are in line with the overall planning framework. It is responsible for the periodic updating and testing of the contingency plan as well as capacity-building and information-sharing with international and national stakeholders.

UNICEF is actively involved in activities related to strengthening the disaster risk reduction capacities of Georgia within the framework of the UNCT Focal Points Group for Contingency Planning, lead by the UNDP Disaster Risk Reduction Advisor, as well as within the UNDP-established disaster risk reduction think-tank for Georgia (an informal consultancy group gathering representatives of government, international organizations and civil society). At present the activities are focused on updating and reviewing the existing National Emergency Response Plan as well as formulation of an intended Disaster Risk Reduction Plan for Georgia.

UNISDR collaboration with Georgia

Georgia has officially appointed an HFA Focal Point in its implementation and pursuit of HFA objectives and strategic goals. UNDAF utilizes the recommendations of the HFA to inform and guide disaster risk reduction in Georgia through a strong partnership among United Nations agencies, with civil society and with other stakeholders. The key outcomes and planned activities closely follow the HFA.

UNISDR made its first official contact with the relevant structures of the Government of Georgia in April 2010. This and the consecutive missions included meetings with the National Security Council, the HFA Focal Point, the Ministry of Interior Emergency Management Department, local and international NGOs, and with the United Nations agencies providing assistance in this field. In the briefing with the National Security Council, UNISDR stressed the importance of national coordination, and shared recommendations on its structure, composition and mode of operation. A workshop under the title National Coordination in Disaster Risk Reduction in Georgia, co-organized by UNISDR and UNDP in July 2010, gathered a significant number and variety of stakeholders in disaster risk reduction, and served the discussion arena between governmental and non-governmental entities.

The meetings, workshops and presentations of examples of other countries, as well as the active participation of official representatives of Georgia in international and regional conferences, influenced the decision of the NSC to form the State Commission for Management of Emergency Situations, in 2010. This structure is in its essence the national mechanism for coordination in disaster risk reduction – the National Platform.

In 2009, UNISDR - with the support of the World Bank, WMO and CAREC - completed the *Central Asia and Caucasus Disaster Risk Management Initiative Risk Assessment for Central Asia and Caucasus Desk Study Review*, which includes Georgia.

In 2010, UNISDR - with the support of the World Bank - completed the *Study of Catastrophe Risk Financing Options: Mitigating the Adverse Financial Effects of Natural Hazards on the Transcaucasian Economies*, which will be published and disseminated in 2011.

In 2011, the Government of Georgia intends to establish the system of local-level HFA Focal Points, and to implement the first assessment of the implementation of the HFA at local level. Special attention is on risk assessment in the areas of priority economic development of the country. Georgia held the national-level assessment of HFA implementation in 2009-2010.

Brief Country Profiles: Georgia

Brief Country Profiles: Georgia

The new schooling year will see disaster risk reduction incorporated in all Georgian schools

The children sat patiently at their desks, listening intently. Then, at the sound of the megaphone from the corridor outside their classroom, they stood in a line and started moving towards the door.

"Don't run," the teacher kept extolling them, as they filed excitedly out of the room. In the corridor they joined other classes, also making their way outside the building under the guidance of pupil marshals wearing bright orange vests plus teachers and staff from the Emergency Management Department of the Ministry of Internal Affairs.

Clearly enjoying the break in normal classes that this evacuation exercise was providing, there was no mistaking the obvious value of such drills in the event of a real disaster. The village of Mleta, nearly a two-hour drive north of the Georgian capital Tbilisi in the foothills of the Southern Caucasus Mountains, is prone to a variety of potential disasters.

It is all part of the school's efforts in disaster risk reduction. Since June 2010, UNICEF, in collaboration with Georgia's Ministry of Education and Science, the National Curriculum and Assessment Centre, the Emergency Management Department of the Ministry of Internal Affairs and Caucasus Environmental NGO Network, has been implementing a disaster risk reduction project among vulnerable communities, funded by ECHO.

As a result of this advocacy, as of September this year disaster risk reduction will be fully incorporated in the national curriculum.

"We haven't had a snow avalanche yet," said Maia Burduli, a member of the School Disaster Management Board. "But there are often days during the winter when we have to close the school for fear of an avalanche, and classes are disrupted."

Maia was talking to us outside the newly-completed school building, nestling below the steep sides of the Aragvi River Valley. The gradient means this area is prone to avalanches during winter, and mudslides in summer. As the rain began to fall, small rivulets of muddy water instantly formed on the steep dirt track at the front of the building, and staff told us when the rain was stronger, the road was impassable. It was easy to see how landslides could occur here.

Tornike Gagadze, aged 15, knows only too well. He was asleep in bed one Saturday morning when a massive landslide blocked the river, quickly inundating his house and his neighbours'.

"Of course it was terrifying," said Tornike, standing in front of the ruins of his home, the surge of silt and rubble deposited by the flood, half submerging the structure. "I opened the door and saw the water level rising so quickly. I had never experienced anything like it before."

He, his father Vazha Gagadze and his grandmother barely had time to escape with their lives and the few valuables they could grab, losing most of their furniture and possessions. Back at the school, Tornike relived the event, depicting the scene on the chalk board. Beside him,

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classmate Natia Burduli was drawing a picture of a bigger flood in 2007 which ruined farms, and nearly destroyed their village church. The rest of the class were in a group, playing a board game which taught them about the different types of disaster and ways of dealing with them.

An important element of this programme has been the incorporation of disaster risk reduction education into the national school curriculum. Learning materials for school children and teachers, along with educational games and child-friendly posters, have been developed. Head teachers from selected pilot schools have been trained, and Disaster Management Boards have been established, as at this school in Mleta. Global climate change is likely to exacerbate extreme weather conditions, making the likelihood of disasters arising from natural hazards more frequent and more intense.

While Board members looked on, colleagues from the Emergency Management Department staged a demonstration for the school's pupils and staff on the array of emergency equipment available to them. The children's obvious eagerness to learn was proof that their involvement is the best way of ensuring safety messages are conveyed to their families and the wider community.

"The project has been excellent in a sense that it's got societies and communities to look at disaster risk reduction through the eyes of those that they hold most precious, which is children," said Benjamin Perks, UNICEF Deputy Representative in Georgia.

Natia Jokhadze, Director of the National Curriculum and Assessment Center, was in full agreement. "We have had the feedback from the teachers and the students," she said. "The children are very motivated and are spreading information to their families, which is very important for disaster risk reduction in education."

As the children of Mleta school, and others throughout Georgia, learn about the different types of disaster that could befall them, the hope is that they never have to put their new-found knowledge to the test. But in this disaster-prone part of the South Caucasus region, they had better be prepared, just in case.

Kazakhstan

Hazards and disasters overview

The sheer diversity of the natural and geological conditions of Kazakhstan means that almost its entire territory is subject to most of the known natural hazards; wind storms, landslides and mudslides, floods, epidemics, extreme temperatures, earthquakes and wildfires are all present.

Kazakhstan lies in a region with low to very high seismic hazard[39]. The Tien-Shan and Altai mountains lie in a very high seismic hazard region which is home to 6 million people (more than one third of the total population) and more than 40 per cent of the nation's industrial capacity. Historically, Kazakhstan has experienced highly-damaging earthquakes, which experts suggest tend to occur every 80 to 100 years. The last highly-damaging period of seismic activities was 1885 - 1911, when several large earthquakes struck at Vernenskoye (1887), Chilik (1889) and Keminskoye (1911). During these earthquakes, the city of Almaty was almost flattened.

The more recent magnitude 5.4 earthquake in Zhambyl province in May 2003 killed 3 people and affected over 43,000 others, bringing devastation to housing and social infrastructure[40].

EM-DAT shows (Table 9) that during 1980 - 2010, floods accounted for the major share of natural disaster events, followed by epidemics and extreme temperatures. In the plains, spring floods fed by rain and snowmelt occur and mountainous regions suffer mud flows triggered by rainfall or breaches of glacial lakes, although the largest mud flows are those triggered by earthquakes[41]. Flood events include the June 1993 flood in the Embinskyi-Kzylkoginskyi region, which killed 10 people, affected 30,000 others and caused an economic loss of US$36.5 million. The more recent March 2005 flood in the Shiyeli-Syr Dariya region affected 25,000 people and caused an economic loss of US$7.6 million. A devastating flood in 2008 claimed one life and caused damage estimated at US$130 million. The flood of 2010 in Almaty Oblast killed 45 people; the three villages of Kyzalagash, Yegency and Koltaban were completely lost to water.

Landslides also pose a significant hazard. The March 2004 landslide in Talgar district reportedly killed 48 people.

Kazakhstan has suffered from various epidemic hazards. In December 1998, 7 people were killed and 593 made ill by bacterial infection, while from 1999 - 2000, 280 people were infected by typhus.

39 GSHAP (1998). Seismic Hazard Assessment for the Caucasus Test Area, by Serguei Balassanian et al. (http://www.seismo.ethz.ch/gshap/caucas/caucas.html).
40 ADRC, Comprehensive Kazakhstan Natural Disaster Preparedness Plan, www.adrc.asia/countryreport/KAZ/2005/english.pdf
41 Pusch C. (2004). Preventable Losses, Saving Lives and Property through Hazard Risk Assessment, A Comprehensive Risk Management Framework for Central Europe and Central Asia, Disaster Risk Management Working paper series 9, The World Bank.

Table 9 Kazakhstan: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Earthquake	1	6.25	3	36,626	0
Epidemic	3	18.75	7	873	0
Extreme temperature	2	12.5	3	600,012	0
Flood	7	43.75	55	103,368	210,270,000
Mass Movement (landslide)	1	6.25	48	0	0
Wildfire	1	6.25	0	8,000	0
Wind Storm	1	6.25	112	0	3,000,000
Total	16	100	228	731,102	213,270,000

Disaster management structure and legislation

The protection of Kazakhstan's national interests against the negative consequences of disasters is under the special control of the country's President and is one of the key priorities of state policy and its long-term development strategy until 2030. The long-term direction for national disaster management is provided by the Presidential Decree "On measures aimed to prevent disasters in the territory of the Republic[42]".

The Ministry for Emergency Situations is the principal organization at central level with responsibility for response activities during large emergencies and disasters. The MES is responsible for the general management of the state system regarding disaster prevention and mitigation. It coordinates prevention measures, controls industrial technical safety, supervises the national fire service and serves as the coordinating body for civil defence in Kazakhstan.

The Comprehensive Kazakhstan Natural Disaster Preparedness Plan (formulated with the assistance of UNDP) serves as a guide for central and local government in implementing disaster reduction measures. Furthermore, the MES developed - and the Government approved in

39 GSHAP (19942 Decree No. 451, dated 19 March 2004.

2005 - the “Concept of prevention and mitigation of natural and technological disasters and improvement of the state management system in this field”, which determines the long-term directions of the civil protection system and updates the civil defence system to meet the increased present-day requirements.

Other legislation in the realm of disaster risk reduction includes presidential decrees on measures aimed to prevent disasters in the Republic’s territory.

How education is used to promote safety

Education on the subject of safe behaviour during emergencies is provided in schools through the subjects “military training” and “basics of life safety”, and through activities such as specific campaigns and civil defence days. The civil defence programme assumes cognitive activities and the formation of “psychological preparedness and strength of will”. The basics of life safety course are intended to develop among pupils a conscious attitude to issues of personal safety and the safety of others in emergency situations.

To further develop the risk reduction message among young people a professional development school is preparing teacher-practitioners at institutions for supplementary education to work with children on safe behaviour in emergency situations throughout their training. The school provides teachers with additional knowledge of new forms and technologies in their work with children and on the formation of practical abilities.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

In 2003 – 2005 the NGO Man and Element participated in the development and implementation of the international project Central Asia Seismic Safety Initiative. As part of the project, guidelines were developed for hospitals and school principals and a non-structural mitigation brochure was produced. During the project implementation, 414 trainings and workshops were held involving over 12,200 participants, while 22,550 students from 21 schools attended trainings. Books entitled *Basics of Seismology and Seismic Safety, Earthquakes: protection and safety measures and Almaty City Seismic History* were produced.

Man and Element also took part in the Local Risk Management in Earthquake Zones of Kazakhstan project. One of the project goals was the provision of training for local populations to give them the knowledge and skills necessary for efficient mitigation of the “consequences of acts of God”. Presentations on non-structural mitigation were developed along with presentations for the three levels of schooling: elementary, secondary and high school. Children were presented with the topics “How to behave during an earthquake?” and “What can be done during an earthquake?”

The Regional Central Asian Training Centre in support of the Comprehensive Nuclear Test Ban Treaty Organization was opened on 21 June 2010 in Almaty, Kazakhstan, under the Institute of Geophysical Research of Kazakhstan and with the financial support of the Norwegian NORSAR Centre. The Centre will work on the basis of the National Data Centre, which is part of the international monitoring system. Initially, the Centre was planned as a regional one yet, taking into account the great interest shown by several European countries, a decision was taken to expand its capacities to include training in the English language as well.

Kazakhstan’s efforts led to the establishment of the Central Asian Coordination Center on Disaster Response and Risk Reduction, in Almaty. The three-party agreement on the establishment of the centre was signed in the autumn of 2010.

The Ministry of Emergency Situations, in coordination with UNDP, is implementing the project Local Risk Management in Earthquake Zones of Kazakhstan, which aims to strengthen the capacities of local communities to participate in early warning and preparedness for earthquakes; to equip them with the knowledge and skills required for the effective mitigation of the effects of disasters caused by natural hazards; to raise the level of awareness of the local population, decision-makers and public; and to promote access to information for civil society on disaster response and decision-making. One of the project objectives is to increase the potential of the local population - in particular on disaster response - by means of training and education, and the development of movies, cartoons and computer games for children.

For the implementation of this project cooperation has been established with the following organizations: the Red Crescent Society of Kazakhstan, Ministry of Health (UNICEF Project Health and Life Skills Programme), UNICEF, United Nations Development Fund for Women (UNIFEM), UNISDR, United Nations Office for the Coordination of Humanitarian Affairs (OCHA), ADRC, and the Global Environment Facility’s Small Grants Program (GEF SGP). Expected outputs, among others, are to build safe behaviour skills in case of emergency situations among children of the V to XIII and IX to X grades, and develop training modules, exercise books and methodological sources for teachers.

UNICEF collaboration with Kazakhstan in education and disaster risk reduction

In 2009, UNICEF actively implemented a project on supporting disaster risk reduction among vulnerable communities in Kazakhstan, under DIPECHO V. The project target groups were local managers from education and emergency sectors, and teachers and children from the 500 selected schools. The project had the following outcomes:

Over 70 national and local managers from the education and emergency sectors were trained on the HFA and disaster risk reduction in education.

Recommendations were developed and submitted to both ministries (Education and Science) on how to improve the education component within the existing system of prevention and “liquidation” of emergency situations.

Booklets for school children and methodological guidelines for teachers (covering the following hazards: earthquakes, flooding, landslides and mud flows, and fires) were developed and printed.

Over 2,500 teachers and over 50,000 school children were trained on disaster risk reduction in education.

In 2010, UNICEF received a grant from DG ECHO under its DIPECHO programme to implement a disaster risk reduction project in South Caucasus and

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Central Asia. The programme involves implementing disaster mitigation and preparedness activities within the education sector in seven countries of the two subregions, including Kazakhstan.

Under the DIPECHO programme, UNICEF country offices and their government counterparts, mainly from the national education and emergency departments, are implementing a range of disaster risk reduction interventions aimed at policy, institutional and operational aspects. The programme, in particular, aims to strengthen the national capacities and systems for disaster safety, especially targeting the selected schools in each country. As a regional disaster risk reduction initiative, the project has been designed in such a way that there is coherence in terms of the objectives and results pursued across the seven countries, while taking into account the individual country specificities.

The project activities will improve disaster risk reduction skills of teachers in schools and pre-schools, parents and other family members of children from target groups. Peers of these children will also have opportunities to increase their resilience and coping skills through peer-to-peer education in disaster risk reduction in out-of-school settings, such as summer camps and youth clubs. Government officials at national and local levels exposed to information and advocacy activities will strengthen their commitment to disaster risk reduction mainstreaming in the education system. Media and other community members will indirectly benefit from the disaster risk reduction activities, the former by producing and the latter by “consuming” information about the project.

In 2010 UNICEF entered a new programme cycle. The 2010 - 2015 country programme aims to support the Government of Kazakhstan in improving the quality of life of children, with special attention paid to vulnerable groups and to the reduction in regional and gender-based disparities. The overarching priorities are to support national policies and budgets for inclusive and rights-based social services that promote greater investments in human capital and systems strengthening. This will contribute to translating economic growth into visible improvement in the well-being of both girls and boys. The effectiveness of education with a focus on fostering life-skills of children and their families to withstand risks and hazards continues to be central to UNICEF in Kazakhstan.

UNICEF has cooperated with UNISDR to jointly conduct sensitization of national and local partners on the HFA and disaster risk reduction in education. This was done at the regional, national and subnational levels.

UNISDR collaboration with Kazakhstan

Kazakhstan has officially appointed an HFA Focal Point, the Ministry of Emergency Situations, as a step in its implementation and pursuit of HFA objectives and strategic goals. Furthermore, Kazakhstan informed UNISDR about the establishment of a National Platform on disaster risk reduction in January 2008, with the MES serving as its Secretariat and official Focal Point.

In 2009, UNISDR - with the support of the World Bank, WMO and CAREC - completed the *Central Asia and Caucasus Disaster Risk Management Initiative Risk Assessment for Central Asia and Caucasus Desk Study Review*, which includes a comprehensive analysis of hazards, vulnerabilities and capacities in Kazakhstan.

In 2010, the Government of Kazakhstan hosted the 5th International Conference on Disaster Management of the Economic Cooperation Organization, in Astana. The country regularly completes assessments of the implementation of the HFA and submits biennial reports to the online HFA Monitor. The city of Almaty, being the regional hub of Central Asia for many areas, hosts a number of research and analytic centres related to disaster management, along with a number of regional missions and offices of the United Nations and international and donor organizations.

The MES has hosted a number of study tours and workshops with the participation of colleagues from neighbouring states, sharing its experiences and approaches in disaster management. In 2007, the country hosted the ADRC conference, in Astana.

With the south of Kazakhstan characterised by high seismic activity, which threatens the large urban and industrial centres of the country, special attention and regular financial support are allotted to seismic safety.

Disaster management policy includes all stakeholders and interested parties. They include local NGOs, the National Red Crescent Society, United Nations agencies, communities and local authorities. The technical assistance of UNICEF and UNDP in Kazakhstan are crucial in supporting the implementation by the Government of its strategies and plans.

Brief Country Profiles: Kazakhstan

Brief Country Profiles: Kazakhstan

Engaging children in Kazakhstan to actively participate in disaster risk reduction

It was clear from the eager responses of the five- and six-year-old children in this class at Kindergarten No. 53 in Almaty, Kazakhstan, that this lesson in disaster risk reduction was one of the most popular of the week. As the teacher asked questions about the different kinds of disasters being shown on the projector screen at the front of the class, hands shot up from eager students wanting to show their knowledge of emergency situations and what they should do in them. With the loud blare of a siren, they then had their chance to prove their knowledge.

Instantly, the children all hid beneath their desks and covered their heads as they would if they were caught in an earthquake. Then, when given the signal that the initial quake had passed, they filed outside quickly and calmly, for a roll-call in the playground from their teacher.

“We have to get under the desks as quick as we can,” explained Sergei Novgorodov as soon as the drill was over and the class had returned inside. His friend Sophia Akzhygitova knew what else they had to do. “We have to hold on to the table with one hand and cover our head with the other arm. And stay away from windows.”

In the Almaty region of Kazakhstan, with its potential for disasters, a pilot programme has proved the effectiveness of integrating lessons in disaster risk reduction into the mainstream curriculum.

“Here in southern Kazakhstan, we are prone to earthquakes,” explained Kindergarten Head, Lucia Kasenova. “And in spring and autumn, there’s a danger from landslides from the mountains nearby, so it’s important for the children to learn.”

Take a short drive to the edge of the city and the mountain ranges Ms. Kasenova described are clearly visible, towering upwards from the plains that make up much of this vast country. Snow-capped, even in the height of summer, they give a sense of the extremes of geography and climate for which Kazakhstan is renowned.

Winter poses a particular risk for the vulnerable here, children especially. The need for children to be prepared for this localized risk is reflected in the materials they use in their disaster risk reduction lessons. The Republican Institute responsible for producing training materials for teachers, known by the local acronym RIPKSO, has been developing colourful and attractive booklets covering topics such as extreme cold and first aid.

“We are a huge country and we can have critically low temperatures,” explained RIPKSO Centre Deputy Director, Lubov Dorozhkina. “So we have added a special module on this, specifically for children.”

Ms. Dorozhkina, along with Government and NGO partners, was present at a meeting specially convened by UNICEF in the Kazakh capital, Astana, to review the work done on implementing disaster risk reduction education into the school curriculum and to agree on what still needs to be achieved. What was clear to everyone was the need for a comprehensive disaster risk reduction programme, particularly with concerns that global climate change may lead to an increase in extreme weather events in Kazakhstan.

With the support of UNICEF and ECHO, an impressive level of collaboration has been achieved since the 2009 signing of an MOU with the Ministry of Emergency Situations and Ministry of Education. Overcoming an initial lack of disaster risk reduction materials, thousands of teachers have been trained through the cascade system and a successful pilot programme has been carried out in the Almaty and South Kazakhstan regions.

Individual schools and teachers have also shown their own initiative in helping implement more effective disaster risk reduction in education.

At School No. 148 in Almaty, children themselves provide photos and written contributions to give a unique first-hand student’s perspective to their school’s progress report on disaster risk reduction training. The school’s Deputy Head, Kazybek Akhmedjanov, was happy to show off their work: albums full of photos depicting the many drills and lessons they had undertaken. Hearing the children’s own experiences made a big difference. “It’s the best form of documentation,” he said.

Now quiet for the summer recess, the long echoing corridors of the school were largely deserted, but in one classroom a vacation session for students was under way. Among the various activities they were engaged in, they were keen to demonstrate their new found disaster risk reduction skills. On the word of command from their teacher, they all crouched on the floor, covering their noses and mouths with their hands as they made their way out of the room as though it was on fire. The best evidence of how well children have absorbed the disaster risk reduction messages is in the drills they practice.

Hanaa Singer, UNICEF Representative in Kazakhstan, summed up the sense of accomplishment. “I think it’s a fantastic programme, honestly. I saw the simulation. I saw the response of the children there, and I know we don’t only have to depend on the Government and the community, but we really can depend on the children also.”

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Kyrgyzstan

Hazards and disasters overview

Disasters caused by natural hazards have been frequent and varied occurrences in Kyrgyzstan. The country is vulnerable to a wide range of disasters, including earthquakes, floods, landslides, mud flows, avalanches, wind storms, extreme temperatures and epidemics. Overgrazing and deforestation of steep mountain slopes have increased the occurrence of mud flows, landslides and avalanches, which occasionally have swallowed entire villages. EM-DAT shows (Table 10) that during 1980-2010, landslides accounted for the major share of disaster events, followed by floods and earthquakes.

Kyrgyzstan lies in a region with high to very high seismic hazard[43]. Between 1992 and 2007, earthquakes affected the greatest number of people (over 150,000) and caused the largest economic losses (US$163 million). An earthquake of magnitude 7.3 struck the Dshalal-Abad region on 19 August 1992 killing 54 people, affecting a further 86,800 and incurring a reported economic loss of US$130 million. It was the second major earthquake to hit Kyrgyzstan that year.

Landslide hazards are also significant. Approximately 5,000 potential landslide sites have been identified, out of which 3,500 are in the southern part of country. In an average year, landslides kill dozens of people and damage or destroy 700 houses[44].

Mud flows and floods also cause significant damage. Floods are initiated by heavy rains, snowmelt and breaches of natural dams. There are more than 8,500 glaciers in Kyrgyzstan encompassing an area of 8,000 square kilometres. Some 200 out of more than 1,000 high mountain lakes are identified as dangerous.

Kyrgyzstan is also at high risk from the hazard posed by industrial and nuclear dumps left over from the Soviet era. The atomic industry in the former USSR was developed in the 1940s and 1950s and during this period the first uranium and rare-earth ore mining was launched in Central Asia. Many tailing dumps were built directly on the flood plains of rivers or on landslide zones, which means that the contents of these dumps could potentially end in rivers, causing a region-wide disaster.

43 GSHAP (1998). Seismic Hazard Assessment for the Caucasus Test Area, by Serguei Balassanian et al. (http://www.seismo.ethz.ch/gshap/caucas/caucas.html).
44 Pusch C. (2004). Preventable Losses, Saving Lives and Property through Hazard Risk Assessment, A Comprehensive Risk Management Framework for Central Europe and Central Asia, Disaster Risk Management Working paper series 9, The World Bank.
45 Ibid.

Table 10 Kyrgyzstan: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Earthquake	6	26.08	132	153,086	163,000,000
Epidemic	3	13.04	22	935	0
Extreme temperature	1	4.34	11	0	0
Flood	3	13.04	4	10,623	5,260,000
Mass Movement (landslide)	8	34.78	249	68,161	37,500,000
Drought	1	4.34	0	2,000,000	
Wind Storm	1	4.34	4	9,075	0
Total	23	100	422	2,241,880	205,760,000

Disaster management structure and legislation

The Government of the Kyrgyz Republic has set the integration of disaster risk reduction into national legislation, strategies and programmes as a strategic goal. It aims to embrace all sectors of society in the programmes and strategies, including central and local government structures, the rapidly-developing private sector and communities.

To achieve this aim, the executive branch is working to ensure implementation of the strategic documents across society. This includes the interaction of research institutions, civil society organizations, municipal structures and local governments to build up the resilience of the population to disasters and increase the level of awareness and information in the area of disaster risk reduction. Elements of disaster reduction are being introduced into the formal education system and at community level.

Central to this process is the Ministry of Emergency Situations (MES), which has the principal responsibility for developing a unified state policy for the prevention and mitigation of, and response to, disasters caused by natural hazards, as well as for coordinating the activities between other ministries. The MES is an independent institutional structure responsible for working out measures for the prevention of emergencies, the protection of people and national property, and for increasing the stability of "economic objects" in the event of a disaster.

The MES also has major responsibilities over the personnel and equipment of other government services in emergencies. The Ministry has specialized civil protection units, which consist of public agencies and institutions (militia, fire brigade and medical services, etc.), which are enlisted to accomplish special tasks during emergencies. At the oblast (regional) and local levels, the MES operates through its local units and local state administrations.

The Centre for Emergency Management and Coordination at the MES collects, analyses, processes and disseminates data related to disaster management, thereby serving as a tool for the communication of disaster information and the preparation of disaster forecasts that are used in government decision-making. The strengthening of readiness to emergency situations and effective response in Kyrgyzstan are implemented by reforming the governmental administration system in emergency situations and creating new rescue divisions.

Legislation in the realm of disaster risk reduction includes the Country Strategy and National Action Plan of Kyrgyzstan on the Implementation of the Hyogo Declaration for 2005 – 2015, the Law on Civil Protection and the National Emergency Management and Response Plan.

How education is used to promote safety

Since 2006 specialists have been educated at the Department of Protection in Emergency Situations as part of the Government's policy of establishing legal responsibilities for the management of the natural environment, including the forecasting and prevention of emergency situations.

The MES, along with international governmental and non-governmental organizations, conducts seminars in pilot regions of the republic to educate local communities at risk of emergency situations.

With the assistance of the Asian Disaster Reduction Centre, the MES developed and published in 2006 a set of educational and training materials for employees of local governments and the general population. The materials are distributed to all the local governments of Kyrgyzstan. The Ministry also conducts continual education for the employees of central and local government administrations in a special division of the MES, and periodically publishes information booklets and brochures regarding hazards.

Furthermore, in 2007 the MES developed an advanced training plan which targets preparedness training at five separate levels: "objective, local, territorial, regional and republican", with the purpose of providing an education programme suitable for all sections of society about the risks associated with the country's various hazards and how to mitigate their consequences. Such MES trainings are implemented according to the requests of interested structures and organizations.

However, although certain mechanisms are being put into place to develop a culture of safety in Kyrgyzstan, more needs to be done to bring this message to children. To make further gains in this area, it will be necessary to introduce into school curricula specific trainings on life safety. On this basis, children will learn the necessary skills and behaviour appropriate to dealing with emergency situations. Some actions are being taken together by the

Ministry of Emergency Situations and the Ministry of Education and Science on introducing the methodology on life safety into schools, starting from September 2011. But although the respective decree of the Ministry of Education and Science was signed, more work should be done on finalizing the methodology, developing the learning materials for students, and printing and dissemination.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

As a first step in the establishment of a national coordinating body - including international and national NGOs, governmental organizations and international agencies involved in disaster risk reduction - an Inter-Ministerial Commission to "prevent and liquidate emergency situations" was established in March 2006. This Commission was re-established as the Inter-Ministerial Commission on Civil Protection on 3 January 2011, to follow the recent 2009 changes in Kyrgyz legislation on disaster risk management. The Commission is comprised of governmental agencies and is chaired by the Prime Minister, with the Minister of Emergency Situations as Deputy Chair. It so happened that the Ministry of Education of Kyrgyzstan had not been included as a member of the Inter-Ministerial Commission. This can be explained by poor understanding of the role that both education and knowledge can have in disaster risk reduction. The situation has changed since, and in 2011 – thanks to the efforts of both UNISDR and UNICEF - the Ministry of Education is becoming a permanent member of the Inter-Ministerial Commission.

In addition to organizations and bodies already mentioned, national partners involved in disaster risk reduction include Act Central Asia, which is an NGO consortium for Central Asia that works with around 50 partners and implementing programmes in Tajikistan, Kyrgyzstan and Kazakhstan. The consortium, which opened in 2002 and has a regional head office in Tajikistan, has as its goal the preparation of communities to face hazards and vulnerabilities in order to ensure safe life and sustainable livelihoods by minimizing the impact of disasters caused by natural and technological hazards. Act Central Asia's objectives are to increase the awareness of the community and other key stakeholders of the threats and vulnerabilities they face; to enhance the capacities of communities and key stakeholders in identifying and analyzing threats, vulnerabilities and disasters; to initiate and sustain community-based participatory disaster mitigation and preparedness pilot programmes (based on a livelihood framework for disaster risk reduction); and to document, advocate and disseminate lessons learned in the development of disaster risk reduction in the region.

Since it started operations, the consortium has achieved the following: the integration of development programmes and disaster risk reduction activities (based on the self-help group work of the local NGOs Shoola and Mehr-Shavkat, in Kyrgyzstan); a memorandum of understanding between disaster risk reduction partners in Tajikistan; close cooperation with the Rapid Emergency Assessment and Coordination Team (REACT) and the NGO Youth Group on Protection of Environment, in Tajikistan; a resource centre disseminating disaster risk reduction-related information (the NGO Youth Group on Protection of Environment, in Tajikistan); professional training for rescue teams (the NGO Zumrad, in Tajikistan); the establishment of schools

disaster teams (Shoola, in Kyrgyzstan, information on which has been included in the ISDR publication *Building Disaster Resilient Communities*[46]); and the mobilization of all key stakeholders – including communities, governments and partners - in all disaster risk reduction activities.

Future activities are aimed at linking disaster risk reduction with livelihood approaches (for disaster resilient assets and resources); working with the governing structures; advocacy and capacity-building; and research on climate change adaptation.

The Central Asian Institute of Applied Geosciences (CAIAG) was founded in 2002 on the basis of a Cooperation Agreement between the Government of Kyrgyzstan and the organization GeoForschungsZentrum Potsdam, of Germany. CAIAG is engaged in scientific, research and education activities through its five departments:

- Geodynamics and Geohazards.
- Climate, Water and Geo-ecology.
- Land use and resource preservation.
- Technical infrastructure and information.
- Education, Training and Scientific Cooperation.

CAIAG has a regional mandate and is an active participant in, and often the initiator of, regional and international programmes and initiatives aimed at disaster risk reduction and climate change adaptation in line with the five priorities of the HFA. It works with a wide range of partners in Central Asia and other countries of the world. In 2005, a permanently-tracking GPS reference station was installed at CAIAG which is part of the global tracking network.

CAIAG aspires to expand its cooperation with scientific and research institutions as well as national and international organizations working in the sphere of disaster risk reduction and related issues.

SDC, in cooperation with CAIAG, has been developing a memorandum of understanding with the Ministry of Education to introduce earthquake awareness into the education curriculum. Lectures on environmental awareness have been held in high schools and "safety of life" has been presented as a subject at universities in Kyrgyzstan.

A Joint Project Document between the Government of the Kyrgyz Republic and the United Nations, the Swiss Agency of Development and Cooperation, and the Red Crescent Society of Kyrgyzstan (RCSK) was signed on 28 November 2007. The purpose of the joint project, which was signed between UNDP Kyrgyzstan as an administrative coordinator and the Inter-Ministerial Commission, was to improve the country's response coordination capacity to disasters caused by natural and technological hazards.

Among other activities, a Disaster Response Coordination Unit, seven sector groups and two mobile operational bodies for the rapid needs assessment of the affected population – REACTs + were established taking into account existing structures and capacities developed under the framework of other projects which were either already implemented or were under implementation, such as the World Bank Disaster Hazard Mitigation Project 2004 + 2010. As part of this project, a Crisis Management Centre, based at the MES, has been established and fully equipped, and additional stationary and mobile disaster management centres should be established throughout the country.

46 (ISDR) Building Disaster Resilient Communities, Good Practices and Lessons Learned: A Publication of the "Global Network of NGOs" for Disaster Risk Reduction, Geneva, June 2007.

UNICEF collaboration with Kyrgyzstan in education and disaster risk reduction

In relation to education, it is expected that all primary- and secondary-level children in the selected schools of four provinces will gain an education that is based on a reformed curricula and child-centred teaching/learning methodology.

It should be noted that UNICEF has not focused extensively on disaster risk reduction issues in Kyrgyzstan, although its 2010 - 2011 rolling work plan included promoting resilience and safe behaviour among children through mainstreaming disaster risk reduction into formal and non-formal education. Furthermore, as part of the United Nations Country Team, UNICEF took part in the rapid assessment following the 2006 earthquake.

Although UNICEF has not cooperated directly with other United Nations agencies on the subject of disaster risk reduction, the organization nevertheless plays an active part in REACT. As well as the cluster/sector on water, sanitation and hygiene, UNICEF – together with Save the Children - leads the education cluster. Also, UNICEF is a member of the protection cluster/sector, leading the child protection sub-cluster/sector when needed.

In 2010, for the first time Kyrgyzstan joined the DIPECHO project implemented in the region of Central Asia and South Caucasus. The programme involves implementing disaster mitigation and preparedness activities within the education sector in seven countries of the two subregions: Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan.

Under the DIPECHO programme, UNICEF country offices and their government counterparts, mainly from the national education and emergency departments, are implementing a range of disaster risk reduction interventions aimed at policy, institutional and operational aspects. In particular, the programme aims to strengthen the national capacities and systems for disaster safety, especially targeting the selected schools in each country.

In Kyrgyzstan, the project focuses on pre-school institutions identified jointly by UNICEF, the Ministry of Emergency Situations and Ministry of Education.

UNISDR collaboration with Kyrgyzstan

UNISDR focused its activities in the Kyrgyz Republic on strengthening the national coordination of disaster risk reduction and on improving regional trans-border coordination. A number of workshops and conferences, as well as high-level meetings with the Government of Kyrgyzstan, have been organized since 2007 to promote disaster risk reduction and advocate for improved coordination at all levels.

Kyrgyzstan, as a country with multiple natural and technological hazards, pays special attention to preparedness and mitigation of losses. The country established Crisis Management Centres in Bishkek (the capital city) and in Osh, with direct satellite communication that is crucial in coordination of disaster management actions.

The Government promotes coordination and involvement of multiple stakeholders in disaster risk reduction through the work of the Inter-Agency Commission for Civil Protection (the former Commission for Response and Liquidation of Consequences of Emergency Situations has been re-named, reflecting the increased emphasis on disaster risk reduction in its work and change of legislation in the disaster risk reduction field).

In 2008 and 2009, the country hosted and actively supported the so-called Ferghana Valley Initiative on trans-border cooperation and coordination for disaster risk reduction and management, with the participation of countries that share the Ferghana Valley and the basin of the river Syr-Darya.

In 2008, Kyrgyzstan joined the initiative on establishment of the Central Asia Coordination Center for Disaster Response and Risk Reduction, in Almaty, and in 2010 signed an inter-government memorandum on its establishment.

In 2009, UNISDR - with the support of the World Bank, WMO and CAREC - completed the Central Asia and Caucasus Disaster Risk Management Initiative Risk Assessment for Central Asia and Caucasus Desk Study Review, which includes a thorough analysis of hazards, vulnerabilities, capacities and needs of the Kyrgyz Republic in disaster management.

The country effectively collaborates with a number of United Nations agencies and international organizations in the field of disaster preparedness and response. An HFA Focal Point was assigned in 2008 and representatives of Kyrgyzstan actively participate in regional and international events and activities, such as the annual ECO conferences in disaster management. Regular assessments of HFA implementations are conducted, and the reports are submitted to the online HFA Monitor.

The Government of Kyrgyzstan intends to establish a National Platform for disaster risk reduction in 2011, with the involvement of various stakeholders. A number of universities have included disaster risk reduction as the mandatory discipline in their programmes. In 2010, the country hosted the regional conference The Role of National Platforms in the Integration of Disaster Risk Reduction in University Programs, at which Kyrgyzstan shared its extensive experience in this field. The commitment of the country to disaster risk reduction and to the establishment of a National Platform for disaster risk reduction was stated at the Global Platform for Disaster Risk Reduction, in Geneva in 2011.

Brief Country Profiles: Kyrgyzstan

Brief Country Profiles: Kyrgyzstan

Equipping children in Kyrgyzstan to deal with disasters caused by natural hazards

Around the Omurbaev household, as with the homes of their neighbours in the village of Chengen in southern Kyrgyzstan, the sights and sounds of the continuing clear-up were everywhere.

Less than two weeks after a massive mudslide ripped through here claiming scores of homes, the memory of it was still intensely painful for 10-year-old Ruslan Omurbaev and his three brothers and sisters.

“The flood took everything: my toys, my books,” said Ruslan, his voice trembling. “And it still gives me bad dreams.”

He described in detail how the normally dry river bed in front of their house became a raging torrent of mud and water following torrential rains, and how it suddenly surged over its banks, inundating their homes.

“I was away at the time,” said Zhumash Omurbaev, his grandfather. He went on to explain how the terrified grandchildren, and their great grandmother, had to be rescued from the windows at the back of the house as the flood was surging through the front.

Luckily, no-one in the village died in the flood, but its speed and ferocity was a frightening reminder of how prone this part of Kyrgyzstan is to disasters. Driving through the deep ravines and gorges of the mostly arid Batken region of the country’s south west corner, it is easy to see how sudden rains can produce flash floods.

In the neighbouring district in the village of Jany Bak, the lesson in disaster risk reduction at the local ‘Schoola’ kindergarten was particular poignant for the teacher, Nurgul Karaeva. Just a week earlier, her two teenage nephews were killed in a flood in the nearby mountains.

“Children between three and five really absorb this information and even tell their parents what to do,” she said. “If those two boys who died had known what to do, maybe they would have survived.”

This is a community living with the daily dangers posed by powerful rains and winds. Global climate change can potentially influence the severity and frequency of such weather events. It is also a region that is frequented by earthquakes, the most recent of which, a powerful tremor in late July, measured more than 7 on the Richter scale and left hundreds of people homeless. Across the border in neighbouring Uzbekistan, 13 people died.

Lessons in disaster risk reduction implemented by UNICEF in conjunction with Government and NGO partners are designed to build a culture of safety which becomes sustainable. The programme is supported by DIPECHO under the European Commission Humanitarian Aid and Civil Protection Department.

“This is something very new for us,” explained Abdilaziz Zaitov, Head of the District Education Department. “Before children would run out panicking during an emergency. But now they know exactly what to do.”

Children at the kindergarten in Jany Bak had just finished an evacuation drill, overseen by their teacher, Nurgul Karaeva. Now they were outside in the school yard, practicing how to respond to storm-force winds that are generated by the extreme climate.

In the kindergarten of the neighbouring village, the lessons in disaster risk reduction are particularly relevant for Aijan Abdykarimova, aged five. Her walk home from school takes her across a dry river bed that becomes a torrent in heavy rains.

“When we see the flood,” she explained confidently, “we have to run for home and be with our parents, because the flood is bad and it can take you away.”

It is planned that the same training for three to seven year olds will be extended to all pre-schools in Kyrgyzystan, so those most vulnerable in disasters will learn how to behave in emergencies.

“The most vulnerable during a disaster, are the young people and elderly,” said Islam Misiraliev, Head of Batken District Emergency Situations Department. With the right training, though, those same children can become an asset in times of need.

Back at the village of Ruslan Omurbaev, everyone was busy with the continuing clean up. As they toiled in the heat, dragging bucket-loads of mud out of their homes, their temporary tented shelters stood next to piles of electrical appliances, clothes and books, drying out in the sunshine.

In a neighbouring house, 16-year-old Bolot Aziretkulov and his grandmother managed to escape from their home and help others get out, thanks largely to what Bolot had seen on television. “I knew we had to get to higher ground because that’s what the TV emergency announcements tell you.”

In doing so, he managed to lead not only his grandmother to safety, but also some of his neighbour’s children. He is part of a generation growing up facing greater potential dangers in their homelands and being equipped with the skills needed to deal with them.

Children and disasters: Building resilience through education

Moldova

Hazards and disasters overview

Moldova was most vulnerable to flooding during the period covered by EM-DAT 1980 - 2010, with seven separate events killing a total of 61 people, affecting a further 51,957 and causing economic losses of over US$360 million. The next most damaging disasters were wind storms, with two events causing damage estimated at US$362.6 million and affecting over 5.1 million people. OCHA reports that the windstorm and frost of November 2000 caused damage estimated at US$20.8 million.

The country is also vulnerable to natural hazards including droughts, epidemics, extreme temperatures, landslides and frosts. Additionally, historical records show that the country is vulnerable to earthquakes, although there were no significant seismic events during the period 1980 - 2010 covered in the data summary in Table 11.

Moldova is also prone to droughts, with events in 2000 and 2007 each lasting for an entire growing season of up to nine months. The 2000 drought was severe and crippled Moldovan agriculture in the spring and summer of that year, affecting about 2.6 million people. UNDP reports that the proportion of overall agricultural losses in the affected areas was between 70 per cent and 90 per cent.

Historic earthquake records report a severe earthquake of magnitude 7.3 in Chisinau in 1940. Moldova is in close proximity to the Vrancea seismic zone in Romania. The United States Geological Survey reports a recent earthquake of magnitude 2.9 in the Ukraine-Romania-Moldova border region, on 15 February 2005.

Table 11 Moldova: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Drought	2	15.38	2	210,394	406,000,000
Epidemic	1	7.69	0	1,647	0
Extreme temperature	1	7.69	13	0	0
Flood	7	53.84	61	51,957	24,673,000
Wind Storm	2	15.38	3	2,625,580	31,600,000
Total	13	100	79	2,889,578	462,273,000

Disaster management structure and legislation

There is a multitude of Moldovan governmental agencies responsible for hazard management and disaster risk reduction. The agencies responsible for disaster risk reduction are coordinated through the Republic Commission for Emergency Situations, chaired by the Prime Minister, with participation at ministerial level from appropriate bodies.

The key governmental body for prevention, monitoring, early warning and response coordination in the case of a disaster is the Civil Protection and Emergency Situations Service (CPESS) of the Ministry of Internal Affairs, which prior to 5 April 2007[47] was referred to as the Department for Emergency Situations. The main tasks of the Service are as follows: protection of the population and property through prevention and response; civil emergency planning; search and rescue operations; issuing of warnings and information; maintenance and use of protective means; risk and capacity assessment; education and training; preparedness; and mitigation of disaster consequences and rehabilitation.

Civil emergency management in Moldova is regulated by the following two acts: the Law on Civil Protection and the Law on Defence against Fires.

The Law on Civil Protection defines the basic principles for the organization of civil defence at all levels, and establishes its tasks and the legal framework that public authorities, institutions, private enterprises, organizations and citizens have to operate within. When the law was introduced, the Department of Civil Protection and Emergency Situations, as it was then known, was under the Ministry of Defence. But in 1997 the Department was expanded to include the Department of Fire Fighters, and in June 2005 the combined Department for Emergency Situations was transferred to the jurisdiction of the Ministry of Internal Affairs.

The Law on Defence against Fires defines the legal, economic and social framework to ensure fire safety and fire protection in Moldova, and regulates relations in the field of combating fires.

Key forthcoming activities include the harmonization of the legal framework with the EU; creation of a Disaster Operations Centre, in order to assist the CPESS with coordination of all other government organizations in times of disaster; implementation of a GIS system in civil emergency management; and further implementation of the Government of Moldova and NATO Partnership for Peace Individual Partnership Action Plan (IPAP).

The CPESS has been created within the overall framework of ongoing IPAP security sector reform.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

In addition to organizations and bodies already mentioned, national partners involved in disaster risk reduction include the State Hydro-meteorological Service; and the Institute for Geophysics and Geology, of the Moldova Academy of Sciences.

UNICEF collaboration with Moldova in education and disaster risk reduction

UNICEF established a viable partnership with the Government of Moldova to reduce the risks of an epidemic through education and training during a project on avian influenza prevention and response. The UNICEF communications section managed the public information and communication component of the project, the benefits of which included an improvement in risk communication during crisis situations among high-level officials, health specialists and health managers. The project included the establishment of a public hotline number and a communication strategy developed to support the avian influenza response activities of the Ministry of Health.

The previous UNICEF 2002 - 2007 country programme focused on maternal and child health; child protection; and young people's health, development and participation. Due to the understanding that quality of education in Moldova is a bigger problem than education coverage, the Government has decided to undertake significant efforts rehabilitating the school infrastructure, attracting teaching staff (particularly in rural areas), and applying new teaching methods, similar to ones used elsewhere in Europe. UNICEF supported the Ministry of Education and Youth (MEY) in running a basic education baseline study, aimed at assessing the situation in the system from the perspective of child-friendly schools, with specific emphasis on access and quality of education, parents' and community participation, and families' role in children's education.

With UNICEF assistance, an interdisciplinary working group approved at the level of Prime Minister has developed the national concept on inclusive education. New partnerships with UNESCO, UNDP, the World Bank, the MEY, the Ministry of Finance, civil society and the Institute of Educational Sciences will help strengthen the capacity of a newly-established policy unit in the MEY so that the quality of implementation will match the quality of new policies and strategies.
A disaster risk reduction strategy for Moldova was produced jointly by UNICEF and UNDP.

Recent history, including the preparation of a contingency plan against avian influenza, demonstrated that the Moldovan institutional and operational framework would benefit from capacity-building in order for it to more efficiently tackle the challenges it faces. In response to these challenges, three United Nations agencies – UNICEF, UNDP and UNFPA – in cooperation with the national partners developed a joint project with the goal to support local counterparts in ensuring that human well-being is assured in whatever emergency situations develop. An assessment and project development was made under the joint programme Reinforcing the Capacity of the Republic of Moldova in Emergency Preparedness and Emergency Response, to which UNICEF Moldova was the leading agency in 2007. However, there have been no activities carried out or planned in the area of disaster risk reduction focused on education.

UNISDR collaboration with Moldova

Moldova has officially appointed an HFA Focal Point, the State Hydro-meteorological Service, as a step in its implementation and pursuit of HFA objectives and strategic goals. During the spring of 2007, and within the framework of SEEDRMI, direct communication was established between Moldovan national authorities and UNISDR.

On 24 September 2007 in Zagreb, a government representative of Moldova signed a memorandum of understanding on the institutional framework of DPPI SEE.

Other international partners include the European Centre for Mitigation of Natural Risks.

47 Civil Protection and Emergency Situations Service was established according to Law No 93 (5 April 2007) 'On Civil Protection and Emergency Situations Service'.

Brief Country Profiles: Moldova

Montenegro

Hazards and disasters overview

Montenegro became independent only in 2006 and there is a lack of retrospective country-specific risk-related data available in the EM-DAT database. Brief additional information available solely for Montenegro from various sources is also presented here.

Montenegro is vulnerable to disasters caused by natural hazards including earthquakes, floods, landslides and forest fires.

The best and most fertile land in Montenegro is regularly flooded. The Pazicko polje is vulnerable to flooding of the River Zeta. Events were reported in 1980 and 2001 in this area. Furthermore, the valley of the River Lim, at the estuary of the River Moraca, and the Zeta plain are also susceptible to floods. Flooding occurs irregularly in other areas as well.

In common with other countries along the Balkan coastline, Montenegro is prone to very high seismic risk. According to data reported by the National Strategy for Emergency Situations, almost 40 per cent of Montenegrin territory is at risk of an expected maximum seismic intensity of magnitude 8 or larger. This affects some 60 per cent of the national population. The country is placed in the middle of an active seismic belt which is frequently affected by catastrophic earthquakes. A devastating earthquake on 15 April 1979 along the coast and wider area of Lake Skadar killed 136 people and caused damage amounting to US$4 billion.

Other natural hazards include flash floods, landslides and rock falls, which often follow heavy rain and can have a critical impact. The country's complex topography makes such events frequent and potentially very damaging for settlements and public infrastructure, especially the 7,000 km road network, much of which is located in mountainous areas.

Forest fires are even more frequent and widespread, especially in the rural coastline areas and in the central region. Often fires are started through agricultural practices.

Table 12 Montenegro: Summary data for Montenegro on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact as available from EM-DAT.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Flood	4	100	0	7,886	0
Total	4	100	0	7,886	0

Disaster management structure and legislation

Montenegro has developed a broad framework under the Ministry of Interior and Public Administration for handling emergency situations and civil security through the establishment of the Sector for Emergency Situations and Civil Security. The Sector was established as a unique body to implement mechanisms for civil protection in Montenegro under the terms of regulations introduced by the Government in December 2004 which made the Ministry of Interior and Public Administration responsible for risk management, preparedness and search and rescue in cases of earthquakes, fires and other natural or technological incidents.

The plan was a move to institutionalize disaster management and consisted of three components: an assessment of basic risks, which resulted in the National Strategy for Emergency Situations; the establishment of a service capable of responding to disasters, but focused on prevention; and the development and adoption of the Law on Protection and Rescue, with an aim to regulate the legal framework.

The National Strategy for Emergency Situations can be considered as a foundation document for the structure of civil protection in Montenegro. It analyses all the risks affecting the territory of Montenegro and provides a survey on the capacity of the Montenegrin structures to cope with them. The survey highlights the operational capabilities of Montenegro with reference to the major risks on its territory, emphasizing the importance of constant monitoring of the hazards and the need for an integrated approach to disaster risk reduction.

The Sector for Emergency Situations and Civil Security consists of the following departments and units: the Department for Civil Protection, which identifies and evaluates risks at national and local level; the Department for Risk Assessment, which is responsible for the management of the national database of risks as reported by the National Strategy for Emergency Situations; the Department for Prevention and Inspection, which has jurisdiction over the activities defined by the Law on Protection and Rescue and other regulations related to this area; the Department for Operational Affairs, which is in charge of the coordination of all organizations, companies, and state or local authority institutions in emergencies; the Department for Strategic Policies and Legal Affairs, which defines the guidelines for strategies and programmes, and proposes draft laws relevant to the organization and the functioning of civil protection and monitors their realization; the 112 Centre, which uses the European emergency number 112 and is a hub for all types of emergency; and the Helicopter Unit, which is responsible for search and rescue operations over the whole of Montenegro.

Ever since its formal establishment, the Sector for Emergency Situations and Civil Security has established active cooperation and collaboration at regional and bilateral level; the most dynamic is cooperation with the Danish Emergency Management Agency in the area of institutional capacity-building and disaster preparedness.

How education is used to promote safety

There is official recognition that disaster risk reduction and recovery concepts and practices are not adequately treated in the present education programmes, which remain outdated[48]. However, this situation should change now with the establishment of an institution that is competent to manage emergency situations and enhance the modernisation of school programmes in a systematic manner. Indeed, the Sector for Emergency Situations and Civil Security is developing the subject of disaster risk reduction, which will be proposed to be included in the education curriculum for grades VI – IX (age 13 - 16).

Almost 32 years after the devastating earthquake which destroyed the whole coast of Montenegro and following the recent catastrophic earthquake that hit Japan, an EU-funded awareness campaign on earthquakes under the slogan “Need to know to be Ready to React” is being launched through a wide media campaign. The first step was the organisation of a major press conference which targeted the whole population, involving television, radio and newspapers, and included news items, interviews, promotional articles on dailies and radio and TV spots. But the main aim of the awareness project is to educate 5,000 school children between 10 and 11 years of age to be better prepared and ready to react in case of an earthquake. The -40,000 awareness project, which is part of the EU-funded Programme on Prevention, Preparedness and Response to Natural and Man-made Disasters (PPRD South), is targeting the 5,000 school children in 62 primary schools, who will learn how to protect themselves and their families by knowing how to master the necessary skills.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

In addition to organizations and bodies already mentioned, national partners involved in disaster risk reduction include the Montenegro Seismological Observatory, and the Hydro-meteorological Institute of Montenegro.

In 2010, in cooperation with the United Nations system, Montenegro conducted a national needs assessment on disaster risk reduction that was discussed during a three-day national policy dialogue where over 30 institutions were presented. The priority list of some 20 actions was agreed with a goal of strengthening the disaster risk reduction system in Montenegro. The three-day working meeting for the establishment of a National Platform on disaster risk reduction in Montenegro is a follow up to the national policy dialogue.

UNICEF collaboration with Montenegro in education and disaster risk reduction

Previous UNICEF cooperation with Montenegro was planned to be covered under the organization’s 2005 - 2009 country programme for Serbia and Montenegro. However, the independence of Montenegro in 2006 resulted in the development of a new country programme for 2007 to 2009. The new programme had the overall goal of ensuring that children, particularly those who live in poverty and are socially excluded, enjoy and exercise their rights. The country programme comprised three components: partnership and social policy reform for children; system and institution building;

48 From Montenegro: National progress report on the implementation of the Hyogo Framework for Action, June 2009. For more information, see http://www.preventionweb.net/english/countries/europe/mne/

and community mobilization.

The new country programme (2010-2011) comprises two mutually-reinforcing components: child protection and social inclusion; and child rights, policies and planning. These reflect the unique contribution the programme can make in the following areas: supporting government and institutions to complete the child-care system reform agenda and implement the legal framework for children at the central and local levels; investing in the inclusion and protection of the most vulnerable and marginalized groups; strengthening capacities in planning, child rights monitoring and budgeting; creating a framework for a sustainable legacy for child rights; and facilitating a child rights perspective in the application of Copenhagen Criteria for accession to the European Union.

Communication for development will be a key strategy for sustainability across the programme. As Montenegro is an earthquake-prone country, the programme will continue to make preparedness a priority strategy.

An example of cooperation in the field of disaster risk reduction was the support given to the Ministry of Health during the influenza A (H1N1) “swine flu” outbreak in 2009 when UNICEF produced communication material for a prevention campaign[49]. Other cooperation included the development of United Nations inter-agency contingency plans, also in 2009, on a joint response and preparedness plan in case of a major earthquake, and another on the human influenza pandemic. In addition, a joint training on emergency preparedness and contingency planning was held in the same year for resident United Nations agencies.

UNISDR collaboration with Montenegro

Montenegro has officially appointed an HFA Focal Point, the Ministry of Interior and Public Administration, as a step in its implementation and pursuit of HFA objectives and strategic goals. During the summer of 2007, and within the framework of SEEDRMI, direct communication was established between Montenegrin national authorities and UNISDR.

49 Following a substantial reduction in the number of cases from January 2010 the Ministry of Health had not yet started to produce this material by the time this publication went to print and it was an open question whether or not it would be used by the end of the influenza season.

Romania

Hazards and disasters overview

Romania is especially vulnerable to floods and earthquakes, occasionally of catastrophic proportions. The country's geologic structure and climate promote landslides, which often occur as associated hazards of earthquakes and floods. EM-DAT shows (Table 13) that during 1980 – 2010, floods accounted for almost 39 per cent of all disaster events, killing a total of 1,694 people, affecting a further over 1.6 million and causing economic losses of almost US$3.5 billion.

But in terms of number of deaths and total economic losses, earthquakes are the most dangerous disaster events. Romania lies in the Mediterranean seismic region, part of the south European alpine belt. The country is affected by earthquakes of varying magnitudes and return periods. In the twentieth century two violent earthquakes struck Romania causing tremendous human and material losses.

Other seismic zones, such as those situated in Banat, in the north-west of Romania, and in the Făgăras mountains, typically are affected by earthquakes of smaller magnitudes.

Table 13 Romania: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Drought	2	2.70	0	0	500,000,000
Earthquake	3	4.05	2,630	6,550	
Epidemic	3	4.05	0	5,271	0
Extreme temperature	17	22.97	430	2,720	0
Flood	39	52.70	1,694	1,600,000	3,036,819,000
Slide	1	1.35	0	330	0
Wind Storm	9	12.16	50	8,456	0
Total	74	100	4,804	1,623,327	3,536,618,000

Disaster management structure and legislation

The Romanian national policy addressing disaster prevention and management is expressed through the work of different administrative authorities, public institutions and specialist bodies with responsibilities, and various legislative documents. The country's technical and institutional capacity for disaster management and preparedness are in place and it is quickly developing an appreciation of how to address disaster risk reduction issues[50].

The national authority responsible for multi-sectoral coordination is the National Committee for Emergency Situations, which operates through the General Inspectorate for Emergency Situations (GIES). The Ministry of Interior and Administrative Reform, coordinated by the Prime Minister, manages the National Committee for Emergency Situations. It is the National Committee's job to coordinate the human, material and financial resources to prevent and manage emergency situations. The system is an integrated framework within which all the support tasks for prevention and management of emergencies are shared among national ministries, central bodies and NGOs.

The General Inspectorate for Emergency Situations was founded in 2004 by merging the Civil Protection Command and the General Inspectorate of Military Fire Corps. The GIES includes a specific department dealing with prevention, a national operations centre and other structures needed to manage emergency situations. On a national level the GIES, through the national operational centre, serves as the Standing Technical Secretariat of the National Committee.

In the event of a disaster, the declaration of an emergency situation represents an exceptional act which allows the application of a series of political, economic and public order measures covering the national territory.

A national report regarding disaster management was developed in 2001. The document assessed the impact, intensity and evolution of the main types of hazards affecting Romania, and identified the country's vulnerabilities. It examined the human, material and financial resources available for hazard management and assessed which buildings and which infrastructure facilities were most vulnerable.

The report also analysed the governmental and non-governmental structures involved in disaster management and international cooperation in disaster situations, as well as the capacities and challenges in disaster prevention, preparedness and management both at national and regional level. Any gaps or imperative needs were identified.

Legislation covering disaster risk reduction includes the Government Ordinance on Strengthening Existing Buildings[51], which came into effect in 1994 and led to a set of duties regarding seismic resistance applying to the Ministry of Transport, Constructions and Tourism, along with the owners of public or private buildings[52].

The Romanian Government developed a coordination mechanism with the assistance of UNDP for environmental rehabilitation and the creation of a generic model that could be applied to a number of geographical areas and types of disaster. The projects were in response to the numerous emergencies in Romania which had an impact on the environment, including the damage caused by polluting industries that were not compliant with existing environmental norms. The projects were the Environmental Emergency Rehabili-

50 From "The Structure, Role and Mandate of Civil Protection in Disaster Risk Reduction for South Eastern Europe - South Eastern Europe Disaster Risk Mitigation and Adaptation Programme", UNISDR, 2009.
51 Government Ordinance no. 20/ 1994.
52 The relevant laws regarding the national policy for disaster management include: G.O. no. 2288/09.12.2004, regarding the repartition of main tasks in the event of emergency situations for ministries, central public authorities and NGOs; G.O. no.1489/09.09.2004, regarding principles underlying the organization, functioning and task management of the professional emergency services; G.O. 1491/28.09.2004, regarding regulations covering the organization, functioning, task management and endowment of operative committees and emergency situation centres; G.O. no. 88/2001, concerning the organization and functioning of emergency situation public services, approved by Law no. 363/2002; Law no. 307/12.07.2006, concerning protection against fire; Civil Protection Law no. 481/08.11.2004; G.O. no. 1490/09.09.2004, regarding regulations on the organization and functioning of the General Inspectorate for Emergency Situations; G.O. no. 1492/2004, regarding regulations on the organization, functioning and attributes of professional emergency services.

tation Coordination Project, developed in 1999, and the Emergency Preparedness for Hazardous Waste Spills in the International Inland Waterways of North-West Romania, developed in 2002.

In 2000, the Stability Pact for South Eastern Europe launched the DPPI to contribute to the development of a cohesive regional strategy for disaster preparedness and prevention for its eleven members. Romania is one of the members

The Romanian Government has established a rehabilitation programme for buildings that are particularly vulnerable to earthquake risk. The Government pays subsidies to the owners of the buildings to partially cover the expenses associated with rehabilitation, such as the need for professional experts, project cost and long-term interest cost on the mortgage loans. The owners are legally required to take measures to reduce the seismic risk of their buildings.

How education is used to promote safety

Special attention is paid to the use of training programmes in schools to encourage an awareness of risk and risk reduction concepts. Analytical training programmes and special materials have been developed by commissions on every type of disaster faced by Romania in a bid to develop a culture of safety. As part of the programmes, theoretical and practical activities regarding behaviour in case of disasters are organized. Activities include scholarly competitions to encourage students to participate.

Universities and other colleges organize training courses in the field of disaster mitigation for members of the public services including fire-fighters, police officers and medics, as well as for architects and other construction workers, and environmental and agricultural workers.

There is detailed attention to risk reduction through preparedness, confirming the commitment to, and relevance of, civil protection in Romania. In all, a total of six specialist universities and seven research institutes in the country contribute to the elaboration of studies, standards and guides in the field of disaster risk reduction[53]. This includes the evaluation of any special hazards on Romanian territory and the identification of the most efficient response procedures.

Of particular note is the research and development programme TESIS (Advanced Technologies and Systems for the Knowledge-based Information Society), financed by the Ministry of Education, Research and Innovation. It includes a project to develop a system for public awareness and education concerning disasters as part of an objective to develop new technologies, platforms and services for “e-Government”.

This project has been developed by experts in software for education, economics and environment at the National Institute for Research and Development in Informatics, in cooperation with specialists from the General Inspectorate for Emergency Situations and the Geography Institute.

Let’s Prepare with Herman: Learning Together about Natural Disasters is a booklet intended to teach children aged 8 to 12 about the most common disasters occurring in Romania. It was developed by Confederatia Caritas Romania. The booklet includes information on rules to be applied in the case of disasters, and ways to prepare oneself. The second part of the booklet contains an analysis of the risks that the children face in the community, together with information on

53 The universities and institutes include the: Technical University of Civil Engineering, of Bucharest; Technical University, of Timisoara; Technical University ‘Gh. Asachi’, of Iasi; Town-Planning and Architecture University ‘Ion Mincu’, of Bucharest; University ‘Babes Bolyai’, of Cluj-Napoca; Polytechnic University, of Bucharest; and the specialist research and development institutes: Geographical Institute of the Romanian Academy; National Institute for Building Research – INCERC, of Bucharest; National Centre for Seismic Risk Reduction – CNRRS; National Research and Development for Earth Physics Institute, of Bucharest; Studies and Designing Institute for Land Improvement – ISPIF, of Bucharest; Regional Centre for Prevention and Industrial Accidents Management, of Cluj-Napoca; and the Environment Research and Engineering Institute.

family plans for disasters and emergency kits.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

The national report regarding disaster management, developed in 2001, included assessments regarding the country’s level of vulnerability to flooding. This involved the participation of a number of specialist institutes, including the Geographical Institute of the Romanian Academy, the National Institute for Building Research and the National Institute for Earth Physics. The institutions established vulnerability levels, taking into account the frequency of floods, existing hydrological networks and topography, as well as social, economic, cultural and environmental factors.

The GIES has cooperated with UNICEF by requesting the joint education kit for emergencies. The kit was made available for translation.

UNICEF collaboration with Romania in education and disaster risk reduction

The UNICEF 2005 – 2009 country programme supported the Government through an important period bridging between pre-accession and accession to the EU and aiming to consolidate key reforms and build capacities in health, education and child protection. In terms of education reforms, the programme included the completion of the reform of inclusive/special needs education, development of policies for Roma children, and support for the development of the parenting education system. Special interventions were planned for the establishment of the Early Education and Development system in Romania, including the development of early learning and development standards for children aged 0 - 7, in close partnership with the Ministry of Education, Research and Youth (MERY), the National Authority for Child Rights Protection and the Ministry of Public Health. MERY is developing a curriculum for early education (for children aged 0 - 6) based on the early learning and development standards. Three annual work plans were implemented under this component, and strategic partnerships were set up with government or inter-governmental bodies including MERY, European Union, World Bank, Council of Europe and Council of Europe Development Bank, Romanian Parliament, Working Group on Early Education, and NGOs including Step-by-Step Centre for Education and Professional Development, Holt Romania, and Our Children.

One activity that was not originally planned for 2006 was UNICEF’s emergency flood relief. It consisted of an initial assessment of the flood situation followed by donations of tents, medical equipment and medicines, and to the psycho-social assistance centre to support the population affected. It also included school supplies for all school children in the flooded villages of Dolj County. UNICEF was also continuing support, in partnership with Habitat for Humanity, for 110 families in distress due to the April 2006 floods. UNICEF assisted mainly through support to local affiliates and development of partnerships with other organizations to build, renovate, and repair homes, apartments and housing units as simple, decent and affordable places to live for these families. UNICEF also assisted with the renovation of one school affected by the floods.

A joint Government of Romania – UNICEF Mid-Term Review for the 2005 - 2009 country programme was carried out to assist in adjusting the programme for the 2008 - 2009 period and in contributing to the programme vision for the 2010 - 2012 period as part of the long-term transitional process of ensuring a sustainable partnership model between Romania and UNICEF.

As part of its future work plan, UNICEF is continuing with efforts, among other activities, for leveraging resources and guidance on early childhood development. This involves the development of convergent policy frameworks for early childhood development, and for capacity-building of national systems to develop, implement, and monitor convergent, evidence-based policies on early childhood development in all sectors and line ministries.

Relations between Romania and UNICEF are entering a new phase. The coming three-year period will see a consolidation of efforts to ensure sustainability of reforms under way in child protection, health and education. It will also lead to the evolution of UNICEF's engagement in the country.

As part of World Bank activities in Romania, the Hazard Risk Mitigation & Emergency Preparedness Project was developed and approved in 2004. The overall objective of the project was to assist the Government in reducing the country's environmental, social and economic vulnerability to disasters caused by natural hazards, and catastrophic mining accidents involving the spillage of pollutants, by strengthening the institutional and technical capacity for disaster management and emergency response. The project aimed to achieve this through the following measures: upgrading communication and information systems; implementing specific risk reduction investments for floods, landslides and earthquakes; improving the safety of selected water-retention dams; and improving, on a pilot basis, the management and safety of tailings dams and waste-dump facilities.

Within the framework of above-mentioned World Bank project, educational material for children related to disaster risk reduction was produced, although mostly focused on preparedness for response. This material was developed as part of a planned public awareness campaign and was complementary to the activities undertaken to introduce disaster risk reduction as a subject in the elementary school curriculum.

While at present, disaster risk reduction is considered to be an optional subject in years one to four, the expectations are that disaster risk reduction will become a regular subject for these year groups.

UNISDR collaboration with Romania

Romania has officially appointed an HFA Focal Point, the General Inspectorate for Emergency Situations, as a step in its implementation and pursuit of HFA objectives and strategic goals. During the spring of 2007, and within the framework of SEEDRMI, direct communication was established between Romanian national authorities and UNISDR. Romania also actively participated at the Euro-Mediterranean Workshop on Disaster Reduction at School, held in October 2007.

Russia

Hazards and disasters overview

By virtue of its tremendous area and diversity of natural conditions, the territory of Russia is subject to the destructive impacts of various geophysical, geological and hydro-meteorological processes, forest fires and communicable diseases. Natural hazards of particular concern include forest fires and other wildfires, which occur on almost 45 per cent of Russian territory. Other natural hazards include floods, earth flows, permafrost over much of Siberia, volcanic activity in the Kuril Islands, and volcanic activity and earthquakes on the Kamchatka peninsula. There is also ongoing destruction of sea shores and the banks of reservoirs and rivers. The threats associated with these natural hazards are significant and the impact they are having on the social and economic development of Russia are increasing.

Table 14 Russia: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Drought	4	2.85	0	1,000,000	1,400,000
Earthquake	11	7.85	2,066	60,190	551,520,000
Epidemic	10	7.14	33	158,246	0
Extreme temperature	19	13.57	57,680	757,604	1,400,100,000
Flood	46	32.85	566	2,160,954	2,433,555,000
Insect Infestation	1	0.714	0	0	0
Mass Movement	9	6.42	474	2,558	2,600,000
Wildfire	21	15.0	137	109,599	2,183,336,000
Wind Storm	19	13.57	211	21,274	296,050,000
Total	140	100	61,167	4,270,425	6,891,961,000

EM-DAT shows (Table 14) that during 1980 - 2010, floods accounted for the major share of disaster events, followed by wind storms and wildfires. The 46 flood events killed 566 people, affected a further over US$2.1 million and caused an economic loss of over US$2.4 billion. Earthquakes killed the largest number of people (2,006), affecting a further over 47,610 others and caused an economic loss of over US$131 million. Nineteen disasters caused by extreme temperatures killed 57,680 people, affected over 750,000 others and caused an economic loss of over US$1 billion. Meanwhile, 21 wildfires killed 137 people, affected over 100,000 others and caused an economic loss of over US$2.1 billion.

Disaster management structure and legislation

The foundation of the national structure for the coordination and execution of work in the field of disaster risk reduction is the Single State System for the Prevention and Elimination of Emergency Situations (RSES), which was established in 1992. The RSES is tasked with integrating management bodies, forces and the resources of federal bodies - and those local administrations and organizations authorised to solve problems in the field of protection of the population and territories from emergency situations – to ensure their readiness by developing and realising (economic and legal) standards in this field. This includes a number of non-structural responses to risk reduction including the development and realization of scientific/engineering programmes and population training.

The basic targets of the system are: preventing accidents and disasters caused by natural hazards; reducing the losses and damage from emergency situations; eliminating the adverse consequences of emergency situations through the effective response of rescue operations; and other measures to eliminate the immediate threats to people's lives and enhance post-event recovery.

RSES management is realized through the Government of the Russian Federation via the Ministry of Emergencies, which is responsible for the control and coordination of the activities of federal bodies in the field of protection of the population and territories.

A Government Commission for the Prevention and Elimination of Emergency Situations and Ensuring Fire Safety has been established. Included in the Commission are heads of ministries and departments, or those deputy heads of ministries and departments who realize control and supervision over the following: the safety of potentially hazardous "economic objects", dangerous natural hazards or potentially hazardous objects within their jurisdiction, or the forces or means of prevention and avoidance of emergency situations.

Legislation relevant to disaster risk reduction includes: the Law of the Russian Federation On Safety; Presidential Decree on the Single State System for the Prevention and Elimination of Emergency Situations; Federal Law on Protecting the Population and Territories from Emergency Situations; Federal Laws on Emergency-Rescue Services and Status of Rescue Personnel, and on the Safety of the Population from Radiation; Federal Law on Communications; General Principles of Organizing Local Self-Management; and the Code of Administrative Law Infringements of the Russian Federation

How education is used to promote safety

Students of all ages, from primary, through secondary to higher professional levels, receive education on prevention of emergency situations through specific study courses. The courses, which are approved by the Ministry of Education, are part of the programme Foundations of Life Protection Science introduced in 1991 which replaced an earlier military training programme that did not contain the required scope of knowledge for young people in emergency situations. The new programme is taught in all general state schools from the I to the XI grades. It encompasses both theoretical education and practical training on the measures necessary for personal safety during emergencies, including basic first aid and child health, along with military training.

Beginning in 1994, life protection science was also introduced into the curricula of non-state general schools. The main goal of the course is to teach students the knowledge and skills they need to protect the lives and health of people in emergency situations, render help to themselves and others, and take preventive measures to eliminate emergencies. The courses are felt to shape a considerate and responsible attitude to the issue of personal safety and the safety of others. They include the identification and proper assessment of natural hazards and education on how to avoid the risks associated with them.

An educational programme also exists for pre-school children. Foundations of Life Safety for Pre-school Children is run at kindergartens and targets the teaching of appropriate behaviour in a number of potentially hazardous scenarios, including dangerous situations on the street or on public transport; and contact with strangers, dangerous items, animals or poisonous plants. The course is designed to encourage a culture of safety among young children and includes basic environmental awareness and knowledge about health.

With a view to improving the popularity of the life protection science course, among other reasons, the Ministry of Education adopted a proposal from the Tula Combined Study - Methodological Centre on Civil Defence and Emergency Situations, Radiation and Environmental Security to establish two experimental projects in the province of Tula, in Eastern Russia, to encourage safe behaviour and environmental awareness. The School of Security project was established with the Children and Youth Association, while the Island of Security project was established with the Children and Youth Township. The basic target was to promote a culture of environmental awareness and safe behaviour during emergency situations.

To ensure the efficient functioning and further enhancement of the system of public education on protection in emergency situations, close attention is paid to the development and provision of study materials and the rehabilitation of study centres and test facilities.

On the basis of the Tula Combined Study Centre a faculty was established to train teachers of general education at primary, secondary and higher vocational levels the subject “life protection”. Meanwhile, a whole complex of programmes for the training and education of all sections of society were prepared and life protection textbooks published for pupils from the I to the XI grades. Moreover a series of educational aids were prepared for students of higher education, with titles including “Life Security: Security in Emergency Situations”, “Life Security: Economic Mechanisms of Risk Management in Emergency Situations”, “Warning and Liquidation of Emergency Situations”, and “Foundations of Risk Analysis and Management in Natural and Anthropogenic Spheres”.

Selected national and international partners involved in disaster risk reduction

UNICEF collaboration with Russia in education and disaster risk reduction

The UNICEF 2006 – 2010 country programme supported national priorities described in the National Plan of Action. They were the: protection of children’s health, optimal early childhood development and promotion of healthy lifestyles; provision of quality education; improvement of children’s living standards; and enhancement of the social welfare system’s efficiency for the protection of vulnerable children. State educational expenditure per child has almost halved since 1990. Pre-school enrolment and availability have fallen to an average rate of 58 per cent, and the attendance gap between urban and rural areas is 28 per cent. Completion rates for the basic cycle are declining as are opportunities for vocational education and educational access for poor children living in rural areas. The system of teaching basic life-skills, including such important thematic components as HIV/AIDS, substance abuse prevention and reproductive and sexual health issues, is still to be fully tailored to new circumstances. The Government’s recently-initiated education system reform provides further opportunities for integrating needed life-skills education into the formal curriculum.

Furthermore, UNICEF will support the Ministry of Education in conceptualizing and testing a social model for giving disabled children access to mainstream education. In the North Caucasus the programme will evolve, conditions permitting, from humanitarian aid to recovery and rehabilitation with a focus on vulnerable children and women. Key components will include education, including peace and tolerance education; child protection, including mine action and assistance to mine survivors; and focusing on integrated youth-oriented services and support.

In addition, UNICEF peace and tolerance education efforts will seek to involve young people, NGOs, educational institutions, media and local governments from North Ossetia-Alania, Kabardino-Balkaria, Ingushetia, Dagestan and Chechnya.

Other specific activities related to education and disaster risk reduction included cooperation in 2009 between the UNICEF education section and the Ministry of Education of Ingushetia to develop a *Life Skills Education Manual* for school children.

UNISDR collaboration with Russia

Russia has officially appointed an HFA Focal Point, the Emergencies and Elimination of Consequences of Natural Disasters (EMERCOM). Furthermore, Russia has designated EMERCOM as the National Platform. As per the updated version of the report on *Implementing the Hyogo Framework for Action in Europe,* EMERCOM has been active in HFA Priority 3: “Use knowledge, innovation and education to build a culture of safety and resilience at all levels”.

Serbia

Hazards and disasters overview

The Republic of Serbia became independent as the legal successor of the State Union of Serbia and Montenegro only in 2006 and there is a lack of retrospective country-specific, risk-related data available in the EM-DAT database. Available data for Serbia is presented in Table 15, although some additional information from secondary sources is also presented in this section.

Serbia is vulnerable to a number of disasters caused by natural hazards, including floods, earthquakes, extreme temperatures, wildfires, epidemics, landslides and wind storms.

The valleys of larger watercourses, in which the largest settlements and the best farmland, infrastructure and industry are located, are highly prone to floods. In 2010, Serbia faced numerous disasters, including major floods, an earthquake in Kraljevo, landslides, heatwaves and windstorms, which claimed human lives, caused much suffering and caused losses amounting to millions of euros. Human activity has accelerated soil erosion, increasing the risk of landslides. Most floods are along the river courses of the Sava, Drina, Velika Morava, Juzna Morava and Zapadna Morava; the Autonomous Province of Vojvodina has the highest flooding risk of all regions. UNDP estimates that over 320,000 people are exposed to the risk of flooding.

Seismic activity in Serbia is strong and frequent, with over 50 per cent of the country vulnerable to earthquakes of magnitude 7 and around 20 per cent vulnerable to events of magnitude 8. Severe earthquakes struck in 1979, 1980 and 1998, the latter event causing an economic loss of more than US$400 million[54].

In terms of other significant hazards, although wildfires are frequent and widespread in Serbia during the summer season the threats they pose are not great. In the period covered there was just one wildfire, which affected 12 people.

Table 15 Serbia: Summary data on disasters caused by natural hazards (1980-2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Earthquake	1	7.14	2	27,030	132,260,000
Extreme temperature	4	28.57	5	500	0
Flood	9	64.28	2	20,480	0
Total	14	100	9	48,010	132,260,000

54 Pusch C. (2004). Preventable Losses, Saving Lives and Property through Hazard Risk Assessment, A Comprehensive Risk Management Framework for Central Europe and Central Asia, Disaster Risk Management Working paper series 9, The World Bank.

Disaster management structure and legislation

Following a series of political transformations over the last 20 years Serbia is now in the process of building a constructive framework towards disaster risk management. Key to the process was the reorganization of the Protection and Rescue Sector of the Ministry of Interior, which deals with disaster and emergency management[55].

Until 2009, disaster management and disaster risk reduction in Serbia was conducted by two main structures: the Civil Protection Section of the Ministry of Defence and the Protection and Rescue Sector of the Ministry of Information. The lack of synergy of previous years had a series of negative consequences. Not only did it lead to a partial dissipation of the budget allocated by the state for disaster risk reduction and disaster management, but it also led to a lack of clarity over the identification of responsibilities in emergency events.

Nevertheless, many of the capacity gaps that existed in the previous system are being addressed following the introduction of new legislation designed to more clearly define roles and responsibilities during emergency events.

During 2009, crucial changes were made to the disaster management system in Serbia. In this year, the Government acknowledged the importance of establishing an integrated emergency and disaster management system and, reorganized the Protection and Rescue Sector into the Sector for Emergency Management.

The SEM integrated the Protection and Rescue Sector of the Ministry of Interior, the Department for Emergency Situations (Civil Protection) of the Ministry of Defence and a number of employees from the Ministry of Environment (from the Department for Chemical Accidents). The SEM is obligated to further develop the capacities of the four departments – Department for Prevention, Department for Fire and Rescue Units, Department for Risk Management and Department for Civil Protection - as well as those of the National Training Centre for education and training of professional and volunteer fire and rescue units; specialised units; executive management of the Sector; and other participants in civil protection.

The most important step of the SEM toward the establishment of an integrated emergency management system was the setting up of a legal framework in this area. On 29 December 2009, the Serbian National Assembly adopted the new Law on Emergency Situations and the new Law on Fire Protection. It is expected that the new Law on Explosives will be adopted in 2011.

In accordance with the Law on Emergency Situations, the SEM coordinates the activities of all state institutions involved in emergency and disaster management. This law defines the following: activities, declarations and management in emergency situations; the system of protection and rescue of citizens, materials and cultural goods from natural and man-made disasters; the rights and obligations of citizens, state agencies, autonomous provinces, local self-governments, companies and other legal persons and entrepreneurs; and inspection and supervision, international cooperation and other issues relevant to the organisation and functioning of the protection and rescue system.

There is an obligation under the law to draft and adopt the following strategic documents: National Disaster Risk Reduction Strategy (which has been drafted and submitted for comments to other ministries before its adoption by the Serbian National Assembly), National Risk Assessment, and National Emergency Plan (both should be adopted by the Serbian Government).

Emergency plans have been developed by most local levels of self-government and need only be revised before adoption. These plans have been developed with the assistance and in cooperation with the United States Agency for International Development (USAID) Preparedness, Planning and Economic Security (PPES) programme. The PPES has been active for the past few years in education and training of local self-government levels. One of the main activities was the certification of towns and municipalities for the development of emergency plans. In 2010, 18 certified municipalities joined the United Nations global campaign Making Cities Resilient: My City is Getting Ready!.

The Law on Emergency Situations includes the recommendations of the respective United Nations offices dealing with disaster risk reduction and disaster management (including UNISDR and UNDP). A number of laws, regulating the field of disaster and emergency management in the countries of the EU, were studied with the aim implementing the best practices of other EU countries in this field.

Since the Law on Emergency Situations was adopted as an umbrella law in the field of emergency and disaster management, a number of bylaw acts, which regulate rights and obligations of all stakeholders, have been adopted, and others are currently being prepared, commented on and amended.

The Regulation on the Establishment of the National Headquarters for Emergency Management was adopted in December 2010. In accordance with this regulation, the Minister of Interior is the Commander of the National Headquarters, the Head of the SEM is the Head of the National Headquarters, while members are comprised of ministers and/or state secretaries of other relevant ministries, and representatives of other governmental organizations and scientific and research institutions. Since the National Headquarters is the standing body that meets regularly, it was recognized that, with the enlargement of its competencies, it could serve as the National Platform for disaster risk reduction.

Furthermore, there is an on-going project for the implementation of a single European emergency call number 112. The resulting 112 service will create a system that includes a database and services such as data analysis, surveillance, early warning, informing and alerting.

Other legislation in the realm of disaster risk reduction includes the Law on Defence, the Law on Water, the Law on Protection Against Ion Radiation, the Decision on Setting the Coordination Team for Major Chemical Accidents, and the Law on Protection at Work.

How education is used to promote safety

There is official recognition that to date there is inadequate use of knowledge, innovation and education to build a culture of safety and resilience in Serbia[56]. This situation has been compounded by the lack of satisfactory coordination among participants in disaster management.

To address the situation, it is recognised that it is important to define school curricula on disaster risk reduction and recovery concepts for all levels of the education system and implement them as soon as possible. There is also a need to develop research methods and tools.

55 Much of the information in this section comes from Serbia: National progress report on the implementation of the Hyogo Framework for Action, June 2009. See http://www.preventionweb.net/english/countries/europe/mne/

56 Information in this section is from Serbia: National progress report on the implementation of the Hyogo Framework for Action, June 2009. See http://www.preventionweb.net/english/countries/europe/srb/

The SEM has initiated negotiations with the Ministry of Education on defining the most efficient ways for inclusion of disaster risk reduction in school curricula.

However, there are individual examples of the use of knowledge to develop a culture of safety. For instance, although there is no national strategy for public awareness there are nevertheless single (thematic) instructions on how the public should behave and respond in case of emergency situations. The SEM regularly holds the Month of Education campaign in primary schools. As part of the campaign fire-fighters visit schools to give lectures and organize practical exercises with school children on fire safety.

In the area of education, new laws which have been adopted and promote social inclusion and equity - including the Basic Law on Education - also define as key principles child-centred education, school safety and protection of children from violence, as well as school community cooperation and partnership with parents and local communities. The Ministry of Education is working on capacity-development of teachers and school administrators to implement these new provisions.

Selected national and international partners involved in disaster risk reduction

UNICEF collaboration with Serbia in education and disaster risk reduction

UNICEF is cluster leader in education and is working closely with the Ministry of Education, national education institutions and relevant experts to develop a programme for raising awareness and building capacities for inclusion of disaster risk reduction in the child-friendly schools programme.

In 2007 and 2008 “information, education, communication” material was jointly prepared for lower-grade primary schools with the Ministry of Health; Ministry of Agriculture, Forestry and Water Management Veterinary Directorate; WHO; UNDP; and Food and Agriculture Organization (FAO) in Serbian and Roma languages to prevent avian influenza.

In 2009, during the 2005 – 2010 country programme, UNICEF actively participated in the Ministry of Education emergency response team for prevention of the spread of influenza A (H1N1) “swine flu”. It also included Guidelines for Development of a Communication Plan for application programme interface that the Ministry of Health and Ministry of Agriculture, Forestry and Water Management adopted, and participation in the UNCT information team for external and media crisis communication.

The overall goal of the UNICEF 2005 – 2010 country programme was to ensure that children, in particular those who live in poverty and exclusion, enjoy and exercise their rights. The country programme was designed to build capacities, create commitment and basic conditions, and support government and civil society in their efforts to progress towards this overall goal. The key results that the country programme aimed to achieve were: an increased percentage of excluded girls to complete gender- and culture-sensitive basic education at the “right” age and gain appropriate knowledge and skills; an increased number of at-risk and institutionalized children to be provided with family-like forms of care; the under-five mortality rate to be reduced by 50 per cent among excluded vulnerable groups and by one third at the national level; more than 90 per cent of young people to have access to knowledge and services necessary to develop skills to practice healthy lifestyles; and to increase prevention and successful responses in cases of child abuse, neglect and exploitation.

Within the framework of an earlier UNICEF country programme a comprehensive analysis of primary education was conducted which was used by the Ministry of Education as a background for education reform. This included the “active learning” methodology, which was brought to 20,000 teachers and used in approximately 60 per cent of primary schools. Achievements at the local level surpassed planned educational outcomes. But although progress in increasing participation of young people was strongly evident at the community level, it fell short of its national-level aspirations.

According to the Law on Local Self Governance, the administrative self-governance units are responsible for protection of local populations from disasters caused by natural hazards and programmes for the alleviation of their consequences. Within the Local Plans of Action for Children that UNICEF is supporting in 22 municipalities the inclusion of programmes for risk reduction and protection of children in emergencies is also foreseen.

UNISDR collaboration with Serbia

Serbia has officially appointed an HFA Focal Point, the Ministry of Interior, as a step in its implementation and pursuit of HFA objectives and strategic goals. During the summer of 2007, and within the framework of SEEDRMI, direct communication was established between Serbian national authorities and UNISDR. As a follow-up, Serbia actively participated in the two sessions of the Global Platform for Disaster Risk Reduction, held in 2007 and 2009, and has informed UNISDR of its intentions to establish an official National Platform in the near future.

Furthermore, 18 cities in Serbia have joined the 2010-2015 World Disaster Reduction Campaign Making Cities Resilient, which addresses issues of local governance and urban risk.

Kosovo
under Security Council Resolution 1244

Hazards and disasters overview

Kosovo (as defined by the United Nations Security Council Resolution 1244) declared independence only in 2008 and there is a lack of retrospective country-specific risk-related data available in the EM-DAT database. Consequently, the combined data for Serbia and Montenegro is presented in Table 16, below.

Kosovo is exposed to a range of disasters caused by natural hazards, including earthquakes, floods, landslides, heavy snowfall, burst dams, wild/forest fires, droughts, epidemics and strong winds. In addition, Kosovo is becoming increasingly exposed to disasters caused by technological hazards, such as industrial incidents and events involving critical infrastructure and information technology. The situation is exacerbated by Kosovo's vulnerability to such disasters, given the significant levels of poverty, construction boom and other factors associated with a country in transition.

The territory of Kosovo is considered to be seismically active. The most recent earthquake was a magnitude 5.7 (Centroid-Moment-Tensor [CMT]) event on 24 April 2002, which struck the municipality of Gjilan. The earthquake caused significant structural damage to a number of buildings, destroying some of them.

Table 16 Kosovo: Summary data on disasters caused by natural hazards (1980-2010), including number of human casualties and economic impact (as per Serbia and Montenegro as data for Kosovo is not available).

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Earthquake	1	6.25	1	100	0
Epidemic	2	12.50	0	869	0
Extreme temperature	2	12.50	6	70	0
Flood	9	56.25	14	125,398	0
Wildfire	1	6.25	0	12	0
Wind Storm	1	6.25	0	0	0
Total	16	100	21	126,449	0

One person was killed, and many people had to be evacuated from their houses in the affected villages. Historically, the territory of Kosovo has also been affected several times by destructive earthquakes that have occurred in neighbouring countries.

Disaster management structure and legislation

The floods of 2005, fires of 2007 and an incident involving disulfide oil in 2008 highlighted the need to focus on improving emergency management, incident response capabilities, and coordination processes in Kosovo. In 2006, the Kosovo Assembly adopted the Law for Protection against Natural and other Disasters (Nr.2006/02/L-68). One of the main objectives of this law is the prevention and reduction of disasters as well as to "inhibit and reduce" the consequences, including the number of victims. The responsibilities and competencies in response to disasters caused by natural and other hazards are divided between the central and municipal levels.

In May 2010, the Government developed the Integrated Emergency Management System (IEMS). The IEMS is a framework that provides a systematic, proactive approach to guide departments and agencies at all levels of government, non-governmental organizations, and the private sector to work seamlessly to prevent, protect, respond, recover and mitigate the effects of incidents, regardless of cause, size, location or complexity, in order to reduce the loss of life and property and harm to the environment. The IEMS should work hand-in-hand with the National Response Plan, which is under development and is expected to be finalized and approved by the end of 2010. The IEMS provides the template for the management of incidents, while the National Response Plan provides the structure and mechanisms for national-level policy for incident management.

The Unique System for Alarming and Emergency Coordination (USAEC) is also in place. This system ensures warning and efficient and timely information regarding disasters caused by natural and other hazards. The USAEC provides information of all emergency services (including the Kosovo Security Forces, Kosovo Police, hospital and pre-hospital emergency centres and municipal services, municipal fire brigades, and hospital emergency centres in municipalities), as well as humanitarian local and international associations, agencies and specialized associations in the field of emergencies. The USAEC has the identification number 112, and is unique for the whole territory of Kosovo.

How education is used to promote safety

It is evident that disaster risk reduction concepts are not included in education programmes. While there is a need for greater efforts to mainstream disaster risk reduction in the school curriculum, there are several educational activities being implemented at the project level in different municipalities.

The Kosovo Red Cross, for instance, supports activities in cooperation with IFRC with regard to risk assessment and training of volunteers on preparedness and emergency response.

Other activities include those of UNICEF, which has supported the Ministry of Education, Science and Technology (MEST) to develop the curriculum on life-skills-based education and its implementation. Some 500 teachers have been trained and are delivering such education to XIII grade students across Kosovo. Recently, life-skills-based education has been incorporated within the draft National Curriculum Framework for pre-school, primary and secondary education. In addition, the Health Promoting Schools Strategy 2009-2018 has been endorsed by the ministries of Education, Health, Youth and Environment. This strategy represents the basic framework through which the education, health, environment and youth sectors, as well as the private sector and all other stakeholders will implement the special programme in order to increase work quality, and the quality of teaching and teachers in a "healthy school environment".

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

In support of the above-mentioned institutions, the Kosovo Red Cross is helping people in need in response to disasters caused by natural hazards such as earthquakes, floods and landslides. As part of the Preparedness and Response Programme, Kosovo Red Cross supports activities and trainings on risk assessment and emergency response in case of disasters.

As part of the Regional Programme on Disaster Risk Reduction in South East Europe, UNDP is supporting Kosovo institutions - namely the Department for Emergencies in the Ministry of Internal Affairs - to develop policies. This project culminated with the National Policy Dialogue in September 2010, which provided an opportunity for stakeholders to offer comments, recommendations and agree on the next steps. In addition, UNDP has supported projects with the Institute of Seismology and the Situation Centre, under the Office of the Prime Minister

UNICEF collaboration with Kosovo in education and disaster risk reduction

UNICEF, within its regular programming, maintains its emergency preparedness and response plan in collaboration with local partners and United Nations agencies.

Slovenia

Hazards and disasters overview

Data shows that Slovenia is less vulnerable to natural hazards than its South Eastern European neighbours[57]. However, although EM-DAT hazard data for the country is available from only 1995 onwards it is known that the country lies in an active seismic zone and in the past there have been several destructive earthquakes with epicentres either within, or near, its territorial borders. Over 650,000 citizens, or 33 per cent of the country's population, live in areas at risk of earthquakes of magnitudes VIII and IX on the MCS scale, and each year Slovenia experiences 10 weak-to-moderate shocks. EM-DAT reports that between 1994 and 2006 there were two earthquakes, killing one person and affecting a further 1,306.

Other hazards include floods, which are a threat to more than 300,000 hectares of land, or approximately 15 per cent of the total territory. The regions prone to flooding are home to more than 600,000 people, about 30 per cent of the total population. Landslides threaten approximately 7,000 square km, or about one third of the country's territory. Approximately 1,400 landslides have been recorded.

Forest fires are the most frequent disaster hazard in Slovenia, affecting mainly the Notranjska karstic region.

In terms of economic loss, wind storms were the most destructive with two events between 1998 and 2007 costing US$392 million and killing six people. Drought-related hazards were the second most destructive, causing an economic loss of US$80 million over the same period.

Table 17 Slovenia: Summary data on disasters caused by natural hazards (1980-2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Earthquake	2	33.33	1	1,305	10,000,000
Extreme temperature	1	16.66	289	148	80,000,000
Flood	1	16.66	0	0	5,000,000
Wind Storm	2	33.33	6	1,050	392,000,000
Total	6	100	296	2,503	487,000,000

57 South Eastern Europe Disaster Risk Mitigation and Adaptation Initiative – Risk Assessment for South Eastern Europe, UNISDR, 2008.

Disaster management structure and legislation

The system of protection against disasters caused by natural or technological hazards is based on the obligation of the state and municipalities to prevent and eliminate dangers and to implement prompt measures in the event of an emergency. It is also based on the obligations of commercial companies, institutions and other organizations which, within the scope of their activities, are responsible for implementing emergency measures relating to the protection and rescue of people and property, and of individuals for the protection of themselves and their properties.

The Resolution on the National Security Strategy of the Republic of Slovenia58, adopted in 2001, is the basis for five-year National Programmes of Protection against Natural and Other Disasters (currently 2008 – 2013). The programmes, which are orientated towards prevention, have the aim of reducing the number of accidents and preventing or mitigating their consequences. Annual priorities are defined for each year and are in accordance with the five-year plans.

On the basis of the above, the Doctrine on Protection, Rescue and Relief was adopted. It comprises the common principles and perspectives concerning professional and operational guidance and organization, and the conduct of protection, rescue and relief efforts in the event of a disaster.

Administrative and specific expert tasks related to protection against disasters are carried out by the Administration of the Republic of Slovenia for Civil Protection and Disaster Relief (a multi-sectoral and coordinating body). The Administration, which is a constituent body of the Ministry of Defence, has 13 regional offices covering designated areas of Slovenia. It is charged with the following tasks:

- Elaboration of proposals for research and development projects relating to protection against disasters.
- Elaboration of proposals of the national programme and plan of protection against disasters.
- Providing for the organization and operation of the monitoring, notification and warning system.
- Elaboration of threat assessments and other technical documents for the planning of protection, rescue and relief, and directing and coordinating measures for the prevention and mitigation of the consequences of disasters.
- Monitoring hazards, and issuing early warnings and advice on appropriate actions to deal with them.
- Elaboration of national emergency response plans in co-operation with ministries and governmental services.
- Organization, equipping and training of national civil protection units and services and other protection, rescue and relief forces, and facilitating the work of the commander of the Civil Protection Headquarters and the national and regional damage assessment committees.
- Monitoring and co-ordinating the organization of civil protection and other protection, rescue and relief forces.
- Elaboration of programmes as well as organization and delivery of education and training for protection, rescue and relief.
- Creation and maintenance of national material reserves to deal with disasters caused by natural and other hazards.

58 Official Gazette of the Republic of Slovenia, 56/2001.

The most important laws governing the system of protection against disasters caused by natural or technological hazards are the:

- Protection against Natural and other Disasters Act.
- Fire Protection Act.
- Fire Service Act.
- Slovenian Red Cross Act.
- Recovery from the Consequences of Natural Disasters Act.
- Protection against Drowning Act.

How education is used to promote safety

Protection against Natural and other Disasters is a non-obligatory subject that was introduced in the regular elementary school curricula in the autumn of 2010. The subject provides knowledge on how to identify and mitigate threats, in particular those involving the environment. Additionally, each year kindergartens and elementary schools organize educational activities with fire-fighting units that include evacuation drills.

The Administration operates under the supposition that disaster risk education should be offered to a child as early as possible and, in this context, is engaged in projects including competitions, the publishing of books and the development of didactic games with subjects such as “Earthquake”, “Flood” or “Safety in the mountains” and various computer games. The Administration has also contributed to various magazines for children, produced a puppet play and developed special promotional activities.

Furthermore, Protection and Rescue Days are held every two years in a different region of Slovenia. The events are opportunities to promote disaster management activities among local populations. The purpose of the events are also to bring together responsible national institutions, professional and voluntary members of rescue services, private companies, NGOs and other experts in the field of protection, rescue and disaster relief to present their activities and/or products to the wider public. As part of the events, a national emergency response exercise, conferences and other educational activities are organized for different sections of the population, such as children, adults and experts, etc.

Each year different prevention and preparedness activities are organized in October, which is designated Fire Safety Month. Moreover, every 1 March (Civil Protection Day) on both national and local levels, individuals and organizations are rewarded for their efforts in protection, rescue and relief activities. Celebrations provide opportunities to raise awareness about civil protection activities through the media.

Selected national and international partners involved in disaster risk reduction

UNICEF collaboration with Slovenia in education and disaster risk reduction

UNICEF has no Mission in Slovenia.

UNISDR collaboration with Slovenia

Slovenia has nominated an HFA Focal Point, the Administration of the Republic of Slovenia for Civil Protection and Disaster Relief, for disaster risk reduction. Slovenia has also informed UNISDR of its intentions to establish an official National Platform in the near future.

Tajikistan

Hazards and disasters overview

The complicated topography of this mountainous country, its high rainfall levels and large number of glaciers mean that floods are the most common hazard in Tajikistan. Floods are caused largely by heavy rainfall and/or glacial melt, which leads to a rise in river water levels. Tajikistan is also vulnerable to natural hazards including earthquakes, mud flows, landslides (mudslides), epidemics, droughts, avalanches, insect infestation and wind storms.

The country has experienced several major disasters over the last 10 years, including earthquakes, floods, landslides and droughts. Among the countries of Eastern Europe and Central Asia, Tajikistan ranks third in terms of large-scale disasters caused by natural hazards. EM-DAT shows (Table 18) that during 1980 – 2010, floods accounted for the major share of disaster events, followed by landslides and earthquakes.

The most recent major disasters include a flash flood in East Khatlon, in May 2010, which killed at least 40 people and destroyed the houses and belongings of

Table 18 Tajikistan: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Drought	2	3.92	0	3,800,000	57,000,000
Earthquake	7	13.72	17	38,000	23,500,000
Epidemic	5	9.80	191	23,590	0
Flood	21	41.16	1,588	758,052	457,990,000
Insect Infestation	1	1.96	0	0	0
Mass Movement (landslide)	12	23.52	367	97,384	214,700,000
Wind Storm	2	3.92	0	2,330	434,000
Extreme temperature	1	1.96	0	2,000,000	840,000,000
Total	51	100	2,163	6,719,356	1,593,624,000

4,500 people. In the surrounding rural areas 16,000 people were directly affected by the disaster; some had their houses destroyed, others lost their livelihoods when their crops and agricultural land were buried under mud and rocks or their livestock were killed. Some 70,000 people were affected in their access to safe drinking water. Social and other infrastructure was severely damaged.

Other recent disasters include floods in Khuroson district in 2008, an earthquake in Rasht in 2007, avalanches in January 2006, and floods and heavy snowfall in 2005. Furthermore, at the beginning of 2008 Tajikistan experienced one of the coldest winters in decades as temperatures dipped to -25ϵC. Coupled with the disruption of electricity and heating supplies, the extreme cold snap resulted in a major national emergency and prompted United Nations agencies and partners to launch a US$25 million appeal to respond to the situation.

Disaster management structure and legislation

The Committee of Emergency Situations and Civil Defence (CoES) is the body tasked with protection of the population and territories. It has the following responsibilities:

- Implement a common state policy on disaster prevention and mitigation.
- Implement disaster management programmes.
- Maintain preparedness of disaster management units, communication and warning systems, forces and tools acting in emergency situations, including the assessment of the socio-economic impact of emergency situa tions.
- Implement international cooperation for disaster reduction efforts.
- Stockpile and deliver relief aid to the affected population.

The CoES is also tasked to protect the population and national territories from the hazards associated with military action such as terrorist threats.

An important step in the improvement of the disaster management system was the establishment of the State Commission for Emergencies in August 2002. This commission has gained the status of the Republican coordinating agency during various emergencies and is established at all levels of the state administration. The Chairman of the State Commission for Emergencies is the President of Tajikistan, while at other levels it is the heads of local authorities (regions, districts, cities and jamoats [municipalities]).

With an aim to contribute to regional cooperation and collaboration, the CoES contributed to the establishment of the Inter-State Council on natural and technological disasters. It was formed in September 1993 by a decision of the heads of governments of CIS states with an aim to develop and implement a coordinated policy regarding disaster prevention and mitigation using the unique experience of CIS states.

Legislation relevant to disaster risk reduction includes the:

- Decree on the Establishment of the Committee for Emergency Situations and Civil Defence.
- Law on Civil Defence.
- Law on the Protection of the Population and Territories from Natural and Man-made Emergency Situations.
- Law on Emergency Rescue Services and the Status of Rescuers.
- Law on the Fund for Mitigation of Emergency Situations.

How education is used to promote safety

The Training and Methodological Centre under the CoES has developed a system of training and tutorials on disaster risk management for local governments, decision-makers, regional branches of the committee involved in disaster management, vulnerable communities, businesses and the general public. In addition, local authorities are establishing information services with the purpose of informing the public about prospective development planning in cities and districts, construction planning of new industrial and civil projects, land reclamation activities and land use in relation to disaster risk reduction.

Within the framework of collaboration and cooperation with international organizations, support has been provided by the UNDP Disaster Risk Management Project (DRMP) and SDC to the Training and Methodological Centre, and the Working Group has been established for revision and improvement of disaster management training programmes for executive officials in central and local government, CoES structures, economic entities, and the public. The new, already-approved, core curriculum is overwhelmingly oriented towards disasters caused by natural and technological hazards (of 34 possible themes at the national level, 24 deal exclusively with disasters caused by natural and technological hazards and only 10 with civil defence).

School disaster planning and risk reduction has received little attention until recently and there is no government finance for disaster risk reduction in education. There is a need to improve the quality of knowledge on disaster risk reduction in education among teachers and children through the integration of disaster risk reduction in the school curriculum. The Government, in cooperation with international partners, has been making efforts by including special disaster risk reduction subjects in the educational curriculum and in relevant educational programmes within the school, pre-school, secondary, special and higher education systems. This would replace the system which included a separate civil defence training curricula for second-, fifth-, sixth-, tenth- and eleventh-grade school students. Furthermore, some basic disaster preparedness is taught to the second-, fifth- and sixth-grade students during extra-curriculum “educational” hours, although in practice these classes are almost always optional and are left to the discretion of the individual school principals or the local educational authorities. At tenth and eleventh grades training is much more formal; it is usually included in the pre-military training but covers essentially civil defence with little emphasis on disaster preparedness and/or response in peace time.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

- The Geophysical Survey under the Academy of Sciences of the Republic of Tajikistan is a recently established institution responsible for seismological research and monitoring of seismic activity on the territory of Tajikistan and neighbouring countries through a network of digital seismic stations installed with the support and assistance of the Swiss Development and Cooperation Agency.

- Prevention, Mitigation, and Preparedness (PMP) International is one of the lead national NGOs in the area of disas-

ter risk reduction. Comprised of a team of experts, it provides assistance to the national government, civil society and international organizations in conducting research, training and analytical activities and applies its expertise in the field. It cooperates with lead regional, European and United States organizations in the sphere of seismic risk reduction. In particular, as UNDP implementing partner it finalized the assessment of residential areas and education institutions of the capital city of Tajikistan, Dushanbe.

- UNDP, through its Disaster Risk Management Program, designed a project aimed to increase public awareness to understand risk, vulnerability and disaster reduction, to enhance commitment from public authorities to implement disaster reduction policies and stimulate interdisciplinary and cross-sectoral partnerships, locally, nationally and regionally. Moreover, under DIPECHO V, and in collaboration with the local NGO "PMP International" it carried out an assessment of all residential areas of the capital city of Dushanbe located in a highly earthquake-prone zone.

- Since 2000, the CoES has led a disaster management coordination group known as the Rapid Emergency Assessment and Coordination Team. REACT comprises over 60 key national and international governmental and non-governmental organizations, including UNICEF and UNISDR. With an objective of rapid assessment and effective response to disasters and coordination, REACT has developed an inter-agency contingency plan for preparedness and response

- On 30 March 2010, the Government of Tajikistan approved a National Disaster Risk Management Strategy and its Action Plan for 2010-2015, which was developed throughout 2008-2009 under the initiative of the CoES and financial support of UNDP and ECHO. During 2009-2010, disaster risk reduction issues were mainstreamed into the development plans of 15 districts: Panjakent, Ayni, Mastchohi Kuhi, Isfara, Konibodom, Baljuvon, Nurobod, Kulob, Khovaling, Jirgatol, Vakhdat, Tursunzoda, Shurobod and Rumi. It is planned to expand this initiative throughout the country.

- In 2010, a seismic hazard map of Tajikistan was built in ArcGIS digital format. Issues of seismic risk reduction were included in the Construction Rules and Regulations of the Republic of Tajikistan in 2007. This document regulates seismically-safe construction in Tajikistan within the framework of the programme for the realization of the National Strategy for Natural Disaster Risk Reduction in 2010-2015.

- Tajikistan has officially appointed an HFA Focal Point as a step in its implementation and pursuit of HFA objectives and strategic goals.

UNICEF collaboration with Tajikistan in education and disaster risk

UNICEF leads the WASH (water and sanitation) cluster and co-leads the education cluster with Save the Children. UNICEF works closely with UNDP DRMP and UNISDR and supported the initiative on school resilience to earthquakes.

In the current country programme (2010 - 2015), UNICEF is further advancing its efforts in maximizing the impact of disaster risk reduction through its integration into the school curricula.

Under the on-going DIPECHO VI programme, the UNICEF country office and its government counterparts, mainly from the Ministry of Education and the Committee of Emergency Situations, are implementing a range of disaster risk reduction interventions aimed at policy, institutional and operational aspects. The programme particularly aims to strengthen the national capacities and systems for disaster safety, especially targeting the selected schools in each country.

In particular, the programme is intervening in 16 schools located in the four most disaster-prone districts of Tajikistan. These schools will serve as models and be used for advocacy purposes.

Of special attention are the following issues:

- Establishing a national coordination mechanism for disaster risk reduction in education.
- Conducting a review/revision of national education policy for disaster risk reduction.
- Conducting a review/revision of the education curriculum for disaster risk reduction.
- Developing a disaster risk reduction training package for teachers (including methodology and materials).
- Providing materials for children (including pre-school facilities and elementary schools).
- Implementing the key elements of school-based disaster risk reduction.
- Developing and running a disaster risk reduction baseline survey in schools.
- Introduction to the draft tool for assessing school safety.

UNISDR collaboration with Tajikistan

UNISDR began its activities in Tajikistan in 2004, focusing on a number of areas, including national coordination in disaster risk reduction, inclusion of the disaster risk reduction component in education programmes and improvement of information exchange. The Government of Tajikistan collaborated with UNISDR in the organization of a number of regional and international conferences, including the 4th Economic Cooperation Organization Conference on Emergency Management, the International Water Forum, and a number of thematic conferences.

Within the DIPECHO IV and DIPECHO V action plans, the Global Facility for Disaster Risk Reduction (GFDRR) and USAID Office of US Foreign Disaster Assistance (USAID/OFDA) assistance programmes, UNISDR provided assistance to the Government of Tajikistan in a number of thematic areas, including strengthening the systems of seismic monitoring, inclusion of disaster risk reduction in school curricula, exchanges in the field of Glacial Lake Outburst Floods, climate change, community-based disaster risk management and safe construction in rural areas.

In 2009, UNISDR - with the support of the World Bank, WMO and CAREC - completed t*he Central Asia and Caucasus Disaster Risk Management Initiative Risk Assessment for Central Asia and Caucasus Desk Study Review,* which includes the Republic of Tajikistan.

In 2009, UNISDR developed and submitted to the Committee for Emergency Situations a project for the establishment of the Emergency Management Centre, for submission to potential donors. The centre is expected to provide reliable real-time communication for relevant structures with disaster-affected areas, access to the disaster-related database of the Committee, and improved assessment of losses and needs in the disaster area. In 2010, the proposal was supported and received funding from the Government of Japan, through the Tajikistan country office of the International Organization for Migration. The Emergency Management Centre was scheduled to have started operations by the end of the summer, 2011.

Tajikistan, having signed the Hyogo Framework for Action in 2005, has worked to improve information gathering, analysis, creation of risk maps and improvement of information exchange systems.

Brief Country Profiles: Tajikistan

Summer camp, schools teach Tajikistan children to survive and save others in disaster situations

Enhancing the skills of children and teachers in disaster preparedness was the major aim of a week-long summer camp in Karatog, Shahrinav district. About 160 children and more than 30 teachers from across the country attended the summer camp.

“While hoping there never will be major disasters, preparing for them is very important,” said Tojinisso Mahmadova, Deputy Minister of Education. “This summer camp will help to prepare school children and teachers for potential disasters, thus helping them survive and play an important role in saving the lives of other people.”

Tajikistan is very prone to disasters caused by natural hazards. The mountainous landscape and climatic conditions often cause floods, landslides, mudslides and avalanches, all of which strongly impact the lives and welfare of communities across the country.

“The impact of natural and man-made disasters falls disproportionately on children,” said Hongwei Gao, UNICEF Country Representative in Tajikistan. “Due to their age, children have limited knowledge and skills, life experience and physical capacity to react adequately when disaster strikes. This summer camp is designed to enhance skills and knowledge of children during disasters.”

The almost 200 participants of the summer camp have been selected from 16 schools, where the project on disaster risk reduction in schools has been implemented since 2009 jointly by the Ministry of Education, Committee of Emergency Situations and Civil Defence, and UNICEF. The participants have already been trained in disaster risk reduction through the project. In addition to enhancing their capacity, the summer camp will also equip over 1,300 children in three neighbouring summer camps with knowledge and skills on survival in disaster situations.

Besides summer camps, 9,000 Tajik children in the 16 target schools were also trained in disaster preparedness. Teachers and students were also involved in an effort called non-structural mitigation. Blackboards and shelves were secured so that they did not fall during quakes. Large furniture was rearranged so that it did not block exists. Evacuation routes were clearly marked.

Basic disaster preparedness equipment was prepared in-line with emergency legislation. This included first aid kits, fire extinguishers, masks, emergency signs, shovels, jackets and flashlights.

“I learnt in school about what I need to do in case of a disaster,” said Shabafruzi Tohir, 13, who came from Ayni district to participate in the summer camp. “Now I can learn even more and share this knowledge with other children.”

Supporting Disaster Risk Reduction among Vulnerable Communities in Central Asia is financially supported by UNICEF and the European Commission through DIPECHO. The aim of the project is to support strategies that enable local communities and institutions to better prepare for, mitigate and respond adequately to disasters caused by natural hazards.

Children and disasters: Building resilience through education

The former Yugoslav Republic of Macedonia

Hazards and disasters overview

The former Yugoslav Republic of Macedonia lies in a seismically active region that has been the site of destructive earthquakes in the past, most recently in 1963 when Skopje was heavily damaged by a major earthquake that killed over 1,000 people and caused extensive damage to the city. Skopje is situated in the most mobile part of the seismically-active Vardar zone. The whole country is located in the Mediterranean seismic belt.

Historically, earthquakes of magnitudes 6.0 - 7.8 in 10 seismic zones have been experienced throughout the country, with the strongest occurring in the seismic zones of Pehcevo-Kresna (magnitude 7.8, in 1904) and Valandovo-Dojran (magnitude 6.7, in 1931). A magnitude 5.2 earthquake in 1994 affected about 230,000 people.

The former Yugoslav Republic of Macedonia is also vulnerable to natural hazards including floods, epidemics, forest and urban fires, extreme temperatures, droughts, wind storms and landslides. In terms of number of events and amount of economic loss, the country was most vulnerable to floods in the period 1980-2010, with seven separate flood disasters causing damage estimated at over US$350 million.

Historic data prior to that available in EM-DAT shows that the country has had two major floods in the last 50 years -in 1962 and 1979 - with an estimated aggregate loss of over 7 per cent of GDP. This

Table 19 The former Yugoslav Republic of Macedonia: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Drought	1	7.69	0	10,000	0
Epidemic	1	7.69	0	200	0
Extreme temperature	1	7.69	30	202	0
Flood	7	53.84	2	111,400	248,600,000
Wildlife	2	15.38	1	1,000,000	13,563,000
Wind Storm	1	7.69	1	3	0
Total	13	100	34	1,121,805	262,163,000

59 Mulutinovic, Z. (1998). Seismic Hazard and Counter Measures in the city of Skopje, Institute of Earthquake Engineering & Engineering Seismology, University “St. Cyrie and Methodius”, Skopje.

same data shows that Skopje is exposed to flooding from three rivers: the Upper Vardar, Treska and Lepenec. The flooding is typically caused by intense rainfall and melting snow.

There were also three major transport accidents reported during 1993 – 2007, which claimed the lives of 208 people.

Disaster management structure and legislation

Although the concept of disaster management in the former Yugoslav Republic of Macedonia has been largely interpreted in terms of protection and rescue, the Government gave political impetus to the development of a multi-stakeholder approach to disaster risk reduction and disaster management when it declared an official National Platform on 21 April 2009.

The principal goal of the National Platform is emergency management through the effective and efficient use of available resources and capacities; as an instrument for the reduction of risk factors; by identifying, assessing and monitoring risks; by building a culture of safety; and by strengthening disaster preparedness at all levels.

The aim is to ensure an integrated, efficient and effective approach to disaster risk reduction through prevention, early warning and management and mitigation of disaster threats and post-disaster consequences.

The Crisis Management Centre holds the strategic position within the crisis management system and provides the National Platform for stakeholders' coordination, and technical and administrative support. It is the governmental agency in charge of coordination of emergency management activities. This includes inter-departmental and international cooperation and consultations for the purpose of crisis management. Furthermore, the Centre is in charge of preparing and updating a unified assessment of the risks and threats to the security of the former Yugoslav Republic of Macedonia, and proposing measures and activities to resolve them.

The Crisis Management Centre has established 35 regional crisis management centres in order to monitor situations, exchange information and data, make and prepare assessments, and inform and broadcast alerts to the population. The Centre also has responsibility for issuing timely information and early warning.

The National Platform is developed through 21 specialized platforms covering specific risks and threats, ranging from wildfires and epidemics, through droughts and floods, to earthquakes and CBRN contamination. The particular platforms will enable institutional synergy and integration of available resources, knowledge and know-how of national and local authorities, the NGO sector, the business and academic community, and civil society.

The following stakeholders are part of the National Platform: ministries and independent governmental agencies and bodies; inspectorates within state institutions; independent regulatory bodies; municipalities; academic community; national laboratory network; education and training sector; research sector (including expertise); business community; and religious communities.

Various ministries and governmental agencies are engaged on a national and local level. These include the ministries of Agriculture, Forestry and Water Management; Environment and Physical Planning; Health; Transport and Communications; Economy; IT Society; Culture; Education and Science; Labour and Social Policy; and Justice. The National Platform also includes the following independent governmental agencies: the Radiation Security Directorate and the National Cadastre Agency.

The Crisis Management Centre and the National Platform in general provide full coverage of disaster risk reduction activities at the local level. In this respect, a municipal network has been started aimed at developing and strengthening cooperation at the local level towards effective prevention, early warning, crisis management, protection and rescue of people and goods, and mitigation. For this purpose, cooperation agreements with all 84 municipalities and the capital city of Skopje have been signed.

In terms of protection and rescue, the Law on Protection and Rescue indicates how responsibilities are divided between the participants in activities, including the state, local authorities, private companies, and public enterprises, facilities and services. The law regulatesthe division of responsibilities in accord with the provisions in the Local Self-Government Law which devolve obligations of protection and rescue to municipalities.

The law also determines the responsibilities of the Protection and Rescue Directorate, as an independent state authority, in the conduct of protection and rescue activities. The Directorate, which was established in May 2005, has the task of coordinating the civil protection sectors.

At central level, the Directorate establishes the main headquarters to manage national protection and rescue activities; the Directorate director is commander of these headquarters. Rapid response teams, established within the Directorate, are a mainstay of the protection and rescue forces and specialize in various fields.

Key activities are focused on implementing the former Yugoslav Republic of Macedonian legal framework as it is harmonized with EU legislation; the ongoing process of destroying unexploded ordnance and other deadly devices; implementation of protection measures against floods; and intensifying and promoting international cooperation.

The second piece of legislation covering the civil emergency management function is the Law on Crisis Management, which governs the response to emergencies in terms of organization and functioning; decision-making and resource use; communication, coordination and cooperation; planning and financing; and an assessment of the security risks to the country.

The different actors involved in the crisis management system include the state administrative bodies and authorities (the Assembly, President and Government), the armed forces, the protection and rescue forces, and bodies of municipalities and the city of Skopje.

In a crisis situation, a Steering Committee, Assessment Group and Crisis Management Centre are established at national level. The Steering Committee is composed of the ministers for Interior, Health, Transport and Communications, Defence, Foreign Affairs, and the Head of the Assessment Group. If necessary, depending on the crisis situation, other heads of relevant state administrative bodies can also be included in the work of the Steering Committee.

The Assessment Group is a governmental body that performs constant assessment of the risks and dangers to national security and proposes measures and activities for their prevention, early warning and management. The Group delivers its analyses, recommendations and conclusions to the Steering Committee.

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How education is used to promote safety

A number of public training projects have been developed targeting primary- and secondary-level pupils through the Ministry of Education and Science. As far back as 1997/98 the project Let us be Acquainted with Natural Catastrophes was developed for pupils aged between 7 and 10. More recently, the project International Cooperation and Connection of Schools in South Eastern Europe through the Internet was realized in 9 high schools in the former Yugoslav Republic of Macedonia, which were connected to 10 schools from each of the 10 countries of South Eastern Europe. The goal of the project was to develop common themes in the sphere of prevention and protection against catastrophes caused by natural or technological hazards.

Furthermore, the elementary school curricula include some content and activities in the domain of risk prevention and protection (taught as “risk prevention culture”). The project has been designed for and incorporated into the curricula for V to VIII grade students (aged 10 to 14). The message is delivered through the regular teaching process in subjects including technical education, geography, physics, chemistry, biology, and physical and health-care education.

At high-school level, students aged 14 to 18 studying the revised curricula complete a 36-hour module on “peace, defence and protection”. It is a non-curricula optional activity through which the students acquire the knowledge, skills and capacity necessary for the “safety and protection” of themselves and others. In the II grade of vocational schools there is an obligatory subject entitled “defence and protection”, which teaches students in two-hour weekly lectures a similar message regarding safety and protection.

The Crisis Management Centre is setting up a national crisis management educational and training network. This will include universities, vocational schools and other educational institutions such as the Military Academy and police training facilities (by planning to include crisis management modules in their existing curricula). The Centre is developing a concept for a virtual Crisis Management Academy, employing the existing educational facilities nationwide.

At graduate and post-graduate level, the institutional framework already exists for the development of methods, techniques and standards, as well as for the training of professionals to master and doctorate levels, in the reduction of seismic and flooding risks. The institutions are the Institute of Earthquake Engineering and Engineering Seismology, IZIIS-Skopje, and the Seismological Observatory, Faculty of Natural Sciences and Mathematics - both under the University Ss. Cyril and Methodius, Skopje; and the Republic Hydro-meteorological Institute. The Institute organizes masters-level courses in the fields of earthquake engineering, engineering seismology, and planning for integrated disaster risk reduction.

To provide a multi-disciplinary approach to the disaster risk reduction process, the CMC and Ss. Cyril and Methodius University have signed an agreement for the establishment of a Disaster Management Centre of Excellence, and its development has already begun. The Centre of Excellence will be in charge of scientific and research projects and activities in the following fields: epidemiology; animal medicine; agriculture and forestry; bio-hazards; environmental hazards, forest fires and protection of environment; climate change and extreme weather conditions; earthquakes, floods and geo-hazards; industrial and technical-technological hazards; nuclear hazards; telecommunication and IT systems safety; energy and power plant security; and water management.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

In addition to organizations and bodies already mentioned, national partners involved in disaster risk reduction includes the former Yugoslav Republic of Macedonian Red Cross, which is establishing an emergency response unit in compliance with IFRC strategy and standard operating procedures. Furthermore, the Red Cross has concluded a memorandum of understanding with the Ministry of Education in order to introduce disaster risk reduction issues into schools. As part of the initiative, selected teachers are being educated on how to deal with disasters before they occur, during their occurrence, and their consequences. Once they are equipped with this knowledge, the teachers then share it with other teachers and pupils.

UNICEF collaboration with the former Yugoslav Republic of Macedonia in education and disaster risk

UNICEF has developed life-skills-based education curricula for primary schools and is now finalizing the development of teacher-training manuals. Following endorsement by the Ministry of Education, the curricula are now applicable in all schools. The UNICEF 2010 - 2015 country programme aims to improve both access to and the quality/relevance of the formal education system. The programme represents a direct contribution to the Millennium Development Goal of achieving universal primary education and is based on two broad strategies: to advocate for child-friendly policies, quality and standards of services in health and education on a national level; and to focus geographically on poor, rural and minority communities to address disparity and social exclusion. Along with the development of the new education curricula and teacher-training programmes discussed above, expected results are child-friendly school standards; improved access to education to ensure that all children go to school, stay in school and gain knowledge that is useful to them; and the development of an Area-Based Social Development (ABSD) programme.

In response to the severe damage caused by the unprecedented number of forest fires during the summer of 2007, UNDP - in partnership with the United Nations Environment Programme (UNEP), UNICEF and FAO - provided technical assistance through its project Supporting the Damage and Threat Assessment of the Recent Heat Wave and Subsequent Forest Fires to the National Crisis Management Centre to conduct a forest fire impact assessment in order to support the country’s early recovery process. The assessment report revealed the environmental damage of various forest fires and their socio-economic impact, and highlighted different opportunities for improvement of the disaster management system. The report recommended a number of interventions for early recovery and prevention. The following major areas were identified to be strengthened: overall disaster coordination and planning; the multi-sectoral approach to prevention, response and recovery; technical hazard monitoring (early warning) and impact evaluation; local resilience; and public awareness- and preparedness-raising. The project aimed to implement these recommendations in consultation with various national and international stakeholders to ensure the country’s successful recovery and prevention of forest fires and other types of disasters caused by natural hazards.

Brief Country Profiles: Macedonia

UNISDR collaboration with the former Yugoslav Republic of Macedonia

The former Yugoslav Republic of Macedonia has appointed an HFA Focal Point as a step in its implementation and pursuit of HFA objectives and strategic goals. Furthermore, the former Yugoslav Republic of Macedonia has informed UNISDR about the existence of an officially-designated National Platform: the Crisis Management Centre. During the summer of 2007, and within the framework of SEEDRMI, direct communication was established between the former Yugoslav Republic of Macedonian national authorities and UNISDR. In addition, the former Yugoslav Republic of Macedonia actively participated in the Euro-Mediterranean Workshop on Disaster Reduction at School, held in October 2007.

Other international partners include the European Centre on Vulnerability of Industrial and Lifelines Systems (ECILS).

Turkey

Hazards and disasters overview

Turkey is especially vulnerable to earthquakes and the country has been struck by approximately 73 major seismic events in the last century, collectively causing the deaths of 20,636 people and destroying approximately 500,000 homes. An earthquake fault line running across the north of the country from west to east caused a major earthquake in 1999. In addition, studies show there is a high probability that a major earthquake will strike Istanbul in the near future[60]. Rapid and uncontrolled urbanization has increased the level of vulnerability to earthquakes.

Table 20 Turkey: Summary data on disasters caused by natural hazards (1980 -2010) and number of human casualties.
The data below has been provided by the Government of Turkey
www.afad.gov.tr/tuaa

Disaster	Number of events	Percentage	Total deaths	Total affected
Earthquake	73	1.53	20,636	15,913,252
Epidemic	no data			
Landslide	811	16.97	233	91,081
Flood	172	3.59	75	69,788
Forest Fire	1,613	33.75	19	over 20 hectares
Rockfall	247	5.16	18	26,747
Fire	275	5.75	79	364
Avalanche	209	4.37	195	18,560
Meteorogic Disaster	1,378	28.84	6	
Total	4,778	100.00	21,261	16,119,792

60 There is a 20 per cent probability that an earthquake will strike Istanbul in the next 10 years.

As per the summary data provided by the Government, the country is at risk from almost all kinds of natural hazards. Between 1980 and 2010 earthquakes accounted for the major share of disaster events and caused the greatest amount of economic loss, followed by floods. The 73 earthquakes affected over 15.9 million people while the 172 floods caused 75 deaths and affected almost 70,000 people. The number and severity of floods as well as wildfires is increasing, especially in the Mediterranean area, where the presence of extended urban sprawl and the exploitation of territory for new infrastructure developments, settlements and industry have exposed a growing number of people to the potentially adverse effects of such events.

In addition, the Black sea region of the country is highly prone to landslides; about 25 per cent of the territory is exposed to landslide hazards.

Disaster management structure and legislation

Turkey has an effective, reliable and complex system of civil protection61. At its apex is the Prime Ministry Crisis Management Centre, which was established in 1997 with the aim of coordinating all rescue activities during national emergencies. All ministers with responsibilities for prevention, mitigation or direct intervention during emergency situations are represented on the Crisis Coordination Council, which is the main operational entity activated during a national emergency.

Turkey had two old state organizations related to disasters caused by natural hazards: the General Directorate of Disaster Affairs and the General Directorate of Civil Defence. These organizations were established during the 1950s. Following the devastating earthquakes of 1999, the Turkey Emergency Management General Directorate (TEMAD) was established with the support of the World Bank to create an upper tier capable of coordinating the actions of different actors at local, national and international level during the emergency phase of disasters. The General Directorate also acts as an inspectorate on the implementation of civil protection laws and regulations, as well as for the design and implementation of tactical and strategic plans.

In terms of international cooperation, TEMAD was the contact point for OCHA and other agencies related to disaster risk reduction, including NATO EADRCC and the European Union Monitoring and Information Centre (EU-MIC). TEMAD was also responsible for the coordination of humanitarian assistance and the civilian side of humanitarian operations led by the United Nations or in a bilateral context.

The two consecutive major earthquakes in 1999 became the turning point in disaster management in Turkey when pre-disaster measures came on to the Government's agenda. Previously, the disaster management system was focused mainly on the post-disaster period and there were no incentives or legislation to encourage risk analysis or risk reduction approaches. But following the earthquakes both the academic and the technical authorities agreed that there was a strong need to develop pre-disaster precautions involving a revised legislation and administrative restructuring.

Under Act No.5902, dated 29 May 2009, which established the Prime Ministry Disaster and Emergency Management Presidency (AFAD), the following three core institutions were unified under a single, independent authority: the General Directorate of Turkey Emergency Management, under the Prime Ministry; the General Directorate of Civil Defence,

under the Ministry of Interior; and the General Directorate of Disaster Affairs, under the Ministry of Public Works and Settlement, all of which were closed. The act was adopted by Parliament and entered into force in June 2009.

In order to take the necessary measures for effective emergency management and civil protection nationwide, AFAD conducts “pre-incident” works such as preparedness, mitigation and risk management; “mid-incident” works such as response; and “post-incident” works such as recovery and reconstruction. AFAD provides coordination for governmental, non-governmental and private organizations and both formulates and implements policies.

The 2011 plan launched by the State Planning Organization (SPO) defined four policy priorities and measures. Those priorities are:

- To prepare a National Disaster Management Strategy and Action Plan.
- To prioritize with respect to the l evel of risk those settlements vulnerable to disasters caused by natural hazards across the country.
- To revise disaster legislation.
- To develop an insurance system for disasters caused by natural hazards.

In addition, Turkey has published a National Climate Change Strategy Document for 2010 - 2020. This very comprehensive document defines the targets and strategies by considering various sectors to achieve successful adaptation to climate change.

Within the new administrative structure and legislation, AFAD works on disaster risk reduction directly with the Planning and Mitigation Department and the Earthquake Department. It also conducts indirect disaster risk mitigation work through its Civil Defence, Response and Recovery Departments.

With the rise of global interest in the concept of disaster risk reduction, Turkey is well aware of the importance of risk reduction strategies. To this end, the country has adopted the HFA as a key guidance text for national progress in disaster risk reduction.

Disaster risk reduction strategy in Turkey

An important initiative - the Assessment of Principles of Risk Management Project - was launched with the approval of the SPO at the beginning of 2011. This project, which will be finalized by 2013, covers methodology and procedures for risk assessment and risk analysis studies to be held in the provinces. Support for the project will be received from the academic community, including disaster management centres in Turkish universities.

Turkey has also recently established a National Platform for disaster risk reduction, in accordance with the first priority of the HFA and in close cooperation with UNISDR. The first meeting of the Platform was to be held in August 2011, with the participation of all stakeholders.

AFAD is also working on the preparation of the National Disaster Management Strategy and Action Plan. The document contains the short-, medium- and long-term disaster risk reduction objectives in line with the HFA. All government institutions dealing with disaster and emergency management, as well as the academic community and non-governmental institutions, are involved in the preparation of this document, which will be finalized by the end of 2011.

One of the main national projects in which AFAD is taking part is the assessment and evaluation of the Strategy and Action Plan for Urban Development. As members of specific working groups established under the auspices of the Ministry of Public Works and Settlement, AFAD is dealing with the preparation of legislative arrangements by:

- Formulating the regulations related to disaster and emergency management.
- Assessing principles for multi-hazard mapping and mitigation plans.
- Preparing a handbook on the implementation of plans.
- Prioritizing buildings for earthquake risk.
- Providing safe transportation routes in case of disasters.

Preparing for hydro-meteorological disasters

Hydro-meteorological disaster experts in AFAD are conducting a Flood Forecasting and Early Warning System Feasibility Project, the protocol for which was signed in September 2010 by AFAD, the State Meteorological Service (DMI) and the Directorate General of State Hydraulic Works (DSI), with a donation by the US Trade and Development Agency. This project covers the analysis of area and hydro-meteorological data for flood models, review of current data collection methods and capabilities, comparative analysis of the flood forecasting systems of developed countries, comparative analysis of commonly-used flood forecasting and early-warning models, technical assessment of flood prevention alternatives and network developments, designation of projects and specifications, financial and economic analysis, and analysis of the impacts on the environment and economic progress. At the end of the project, the results obtained will be submitted as a final report to government authorities in order to proceed to the next step.

AFAD will participate in the process of expanding the Mitigation of Flood Risk in the Flooded Areas in South Eastern Anatolia Project, which is focused on hazard mapping, structural measures against disasters and education activities. This is being carried out in cooperation with the Prime Minister’s Office and the South Eastern Anatolia Project Regional Development Administration. The project proposal, which follows the framework of the European Union Floods Directive, also aims to establish a monitoring, forecasting and early-warning system using flood-hazard maps in a pilot region in order to prevent and mitigate flood risks in the long term.

Another project to be conducted on hydro-meteorological disasters is the 2012 - 2013 Capacity Building on Flash Flood Forecasting and Early Warning System Project. The proposal has been prepared by AFAD within the framework of the European Union Floods Directive and within the scope of the EU Instruments for Pre-Accession Assistance Programme, in cooperation with DMI, DSI and the Directorate General of Electrical Power Resources Survey and Development Administration (EIEI). It was submitted to the Prime Minister’s Office, Secretariat-General for European Union Affairs, in February 2011 in order to enhance the country’s capacity in this specific area. The project proposal is awaiting approval.

Disaster risk reduction and geographic information systems

Integrated hazard mapping by using GIS is an important topic in disaster risk reduction, both locally and internationally. In this context, a pilot project has been implemented by AFAD and its predecessor institutions.

Following the 1999 Marmara Region

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earthquakes, the Integrated Multi-Hazard Assessment for North Western Anatolia Region Project commenced under the General Directorate of Disaster Affairs. The project consisted of integrated multi-hazard mapping for the three provinces of Kastamonu, Karabuk and Bartin; the region has been subjected to various kinds of natural hazards, including earthquakes, landslides, rockfalls, floods and wildfires. The main goals of the project were to assess the hazard levels of the pilot provinces and to prepare multi-hazard maps in GIS environments. The project also guides the rapid-response plans of the provinces, supplying information to city planners for land-use planning and decision-making. Earthquakes, landslides, rockfalls and floods were studied and hazard maps prepared. Disaster management was also included in the project. In cooperation with the General Mapping Command and the General Directorate of Mineral Research and Exploration, integrated hazard maps of the three pilot provinces were accomplished and there are plans to expand the project to the rest of the country.

Various government institutions are using these multi-hazard maps for planning purposes and in engineering design. The Prime Minister has ordered further hazard assessment and multi-hazard mapping studies.

Disaster risk reduction and earthquakes

Turkey pays special attention to earthquakes due to its location and AFAD has a dedicated Earthquake Department. It contributes to disaster risk reduction by operating and developing observation network systems such as the Weak Motion Seismic Observation Network and the Strong Motion Seismic Observation Network. They operate on a 24/7 basis through 473 observation stations. Data collected from these networks are shared with the public through the Department's website and stored in the National Seismic Data Centre. Studies conducted by the Earthquake Department include:

- Earthquake hazard mapping on a local, regional and national level.
- Assessment of active faults that may produce earthquakes.
- Paleoseismicity.
- Development of an earthquake early-damage assessment system.
- Province-based modelling of seismic behaviour of the ground for safe and secure settlements.
- Development of building codes for implementation in earthquake-prone regions.

A multi-stakeholder consultancy mechanism, the Earthquake Advisory Board, has been established under AFAD. With its support, the Earthquake Department is preparing the National Earthquake Strategy and Action Plan, which was expected to be finalized and launched by August 2011. The AFAD Earthquake Department is a member of several international seismological organizations, including the European Seismology Commission and the Euro-Mediterranean Seismological Center.

How education is used to promote safety

AFAD is responsible for education, training and awareness-raising activities in the field of disaster and emergency management. The target groups of these activities are decision-makers, national and local officials, from directors-general to experts working on disaster and emergency management, NGOs and the public.

Starting from the assumption that well-informed populations can protect themselves better against risks and can cope more efficiently with danger in emergencies, AFAD pays special attention to publishing and distributing informative texts and visual materials on disasters and emergencies in order to raise public awareness.

There is always a need to review and update technical information of this kind. For this reason, AFAD organizes theoretical and practical education and training programmes for specific topics in the field of disaster and emergency management with a continuously-updated curriculum, to improve the skills of managerial and technical staff working in this field.

The promotion of education programmes and the adoption of new school curricula and university courses have helped to further enhance the public perception and awareness of disaster risk reduction in Turkey. Furthermore, specific technical structures and schools for the training of personnel working in civil protection units are in place and there is constructive co-operation with universities.

Following the two major earthquakes of 1999, the Ministry of Education radically changed the school curricula. Under the new system, curricula for primary and secondary levels (age 6 - 14) focus on preparation and protection for disasters, while at high-school level (age 15 - 17) the students receive more detailed knowledge on the causes of disasters, and civil protection, mitigation and response activities. Schools invite external specialists for training of both teachers and students and conduct annual evacuation exercises. Furthermore, the Ministry of Education is closely involved with the implementation of risk reduction subjects in primary- and secondary-school education programmes. To realize these aims, the first step was to educate teachers and decision-makers.

The European Natural Disasters Education Centre, under the AFAD Education Coordination Branch, is a specialized centre established within EUR-OPA which delivers training on hazard reduction activities. Its target group comprises technicians, administrators and groups which have responsibility for various disaster management tasks.

In addition to governmental bodies, there are specialized research centres in the field of disaster management within Istanbul Technical University and the Middle East Technical University. Among them, Istanbul Technical University's Centre of Excellence for Disaster Management has been established as a resource to serve activities such as training, consultation and research. The broad aims of the centre are to develop strategies and projects, and to construct a bridge between neighbouring countries and developed countries specifically in disaster management.

One of the objectives of the Istanbul Seismic Risk Mitigation and Emergency Preparedness Project is to conduct public awareness campaigns and training in emergency management. Training topics covered include survival under extraordinary situations, first aid, structural awareness, non-structural risk awareness and retrofitting of public buildings.

Other activities have been conducted by the Japan International Cooperation Agency, which has organized a training programme using different formats and a variety of media. Trainings have included educational activities, publications, visual tools (using CDs and DVDs), and video conference for trainings in the field of disaster management in coordination with different governmental organizations. Target groups of these trainings are governmental officers, emergency managers and technical staff. In all, 253 senior local administrators such as governors and deputy governors have ben-

efited.

As the result of this programme, an interactive training set in DVD format was prepared and a book, Basic Principles of Disaster Management, was published. Both were distributed to all governmental units and universities, and were made available to the public. The Agency also organized video conference training programmes through which Japanese experiences on disaster risk reduction were transmitted to their Turkish counterparts through an on-line dialogue.

AFAD has an Education Centre with significant capacity. Its one aim is to educate trainers to train the following: staff working in disaster and emergency management at local levels; staff and decision-makers working in disaster-related state organizations (in areas including the environment, forestry, water and municipalities etc.); and local people throughout Turkey who live in disaster-prone areas.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

Following the 1999 Kocaeli earthquake, Bogazici University, Kandili Observatory and the Earthquake Research Institute launched the Istanbul Community Impact Project with support from USAID. The project successfully developed curricula and outreach materials in basic disaster awareness and disseminated these, in partnership with NGOs and the directorates of education in the Marmara region, with school and community - based instructors. Curricula were also developed in non-structural mitigation and structural awareness for seismic safety. More than 1.2 million school children and 66,000 school teachers were reached in the initial effort.

The goal of the 2003 - 2005 Basic Disaster Awareness in Turkish Schools project, developed in partnership with the Ministry of Education (MoE), was to create the basis for institutionalizing this education programme by training 15,000 school-based basic disaster awareness instructors, who would in turn reach 5 million school children in the 30 most populous provinces at risk. Key opportunities to embed this progress into a culture of safety remain with the MoE in establishing an ongoing National Disaster Awareness Workgroup tasked with programme integration into the national curriculum and expansion from pre-school through high-school level in public and private schools nationwide.

Some universities, such as the Middle East Technical University (METU) and Istanbul Technical University (ITU), have disaster management excellence centres. There are also scientific centres for earthquake research at most universities. ITU has a Master of Science programme on disaster management, while METU is working in collaboration with the World Bank Online Natural Disaster Management Certificate Programme. In addition, 3anakkale University runs a Disaster Management MSc programme. Other universities with disaster research centres include Gazi University in Ankara, Dicle University and Hacettepe University.

International relations

AFAD, with the assistance of the Foreign Relations Coordination Office, is cooperating with South East European countries through the DPPI SEE and South East European Cooperation Process (SEECP); with Mediterranean countries through PPRD South; with European countries through EUR-OPA and the European Union; and with countries of the Black Sea region through the Organization of Black Sea Economic Cooperation. It also cooperates with the United Nations, NATO - through the EADRCC - and the Economic Cooperation Organization. AFAD is collaborating with several United Nations organizations, including UNDP and the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER). AFAD is also an authorized user of the International Charter for Space and Major Disasters, which supports post-disaster activities by providing satellite images.

AFAD is also collaborating bilaterally with Albania, Azerbaijan, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, and Romania and trilaterally with Afghanistan and Pakistan on disaster risk reduction, as well as other disaster and emergency management subjects, in the framework of bilateral and trilateral agreements and/or memoranda of understanding.

Disaster and emergency management systems in Turkey have evolved from a post-disaster approach to pre-disaster planning from the political, institutional, academic and practical points of view. The country has adopted the HFA as a key guidance document during this transition period and has been paying particular attention to disaster risk reduction progress in accordance with HFA priorities.

The objectives of Turkey, and institutionally of AFAD, are as follows:

- To work in harmony with national and international stakeholders.
- To finalise the National Disaster Man agement Strategy and Action Plan.
- To prepare multi-hazard and multi-risk maps for the entire country.
- To establish information, monitoring, early-warning and communication sys tems and preparation of operation standards for these systems.
- To complete urban risk analyses and mitigation plans.
- To create databases for collecting, analysing and synthesizing data related to disasters and emergencies.

Other goals in which Turkey and AFAD are making good progress are the popularization of a culture of risk mitigation and reduction through education, information and awareness-raising activities, and the establishment of accreditation standards for voluntary institutions, organizations and people involved in the disaster and emergency management system.

UNICEF collaboration with Turkey in education and disaster risk

The ongoing UNICEF Country Programme Action Plan (CPAP) has been developed for the period 2006 - 2010 and aims to support education, health, early childhood development, child protection and child participation in Turkey by working towards the increased availability of data and information about child rights issues, and by advocating for policy change.

Disaster risk reduction is mainstreamed chiefly into the programmes Quality Education; Advocacy, Information, and Social Policy; and Early Childhood Care and Learning. Other UNICEF activities related to risk reduction have included participation in a knowledge, attitudes and practices survey conducted on avian influenza. This involved participation in the communication campaign and the printing of over 180,000 copies of a training pack. Accordingly, training on the protection of children and families from avian influenza was provided to 143,800 front-line workers all over the country. They included vets, agricultural engineers, provincial administrators, teachers and community leaders such as imams and village/neighbourhood muhtars. This training was conducted by 378 provincial trainers who had themselves been trained by a central team of 16. The training model, materials and guide previously developed with UNICEF technical support were used, including instructions on how to monitor. Moreover, 3,000 books for provincial trainers and 180,000 guidebooks for front-line workers were developed, print-

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ed and distributed. Positive feedback was received from the trainees on training materials and training sessions.

In addition, in 2009 UNICEF entered a project cooperation agreement with the NGO Blue Crescent on developing a manual for schools on disaster management.

UNISDR collaboration with Turkey

AFAD is collaborating with UNISDR and is nominated as the HFA Focal Point for Turkey.

Turkmenistan

Hazards and disasters overview

The availability of disaster data for Turkmenistan is limited in comparison to other countries in the region. However, analysis of reported disaster data shows that the country is severely affected by earthquakes.

The flood hazard is also significant and flooding is common in the watersheds of the Atrek and Siraks rivers, notably where the Siraks borders Iran. The only recorded flood disaster was in January 1993, when 420 people were affected and reported economic loss amounted to US$100 million.

The country is constantly exposed to drought hazards, which may further intensify as a result of climate change. It faced a particularly harsh winter in 2007/2008 resulting in large numbers of cattle lost and soaring consumer prices for meat. In particular, the country will benefit from a drought response strategy based on a forward-looking hazard profile and development of longer-term capacity for drought mitigation and management.

Turkmenistan is also vulnerable to landslides, although the risks they pose are limited because they occur mostly in sparsely-populated mountain areas.
EM-DAT shows (Table 21) that during 1980-2010, there was one earthquake and one flood reported.

Table 21 Turkmenistan: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Earthquake	1	50.00	11	0	0
Flood	1	50.00	0	420	99,870,000
Total	2	100.00	11	420	99,870,000

Disaster management structure and legislation

Turkmenistan is the only country of Central Asia which has not committed itself to the HFA due to its neutrality status. However, positive developments over the last years include the establishment of the State Agency for Disaster Management in May 2007, which was later replaced by the Disaster Management Unit under the Ministry of Defence of Turkmenistan.

In 2008, disaster preparedness was for the first time included in UNDAF for Turkmenistan during the mid-term review. The regional conference on seismic risk reduction, held in the capital city Ashgabat in October 2008 and partially funded by DIPECHO V with the active participation of UNISDR, is compelling evidence of the on-going changes and the readiness of Turkmenistan to cooperate at the regional level.

On the whole, based on the general trends in national policy and informal meetings with government officials of Turkmenistan, there can be no doubt that there are positive developments.

How education is used to promote safety

Turkmenistan inherited a relatively comprehensive education system from the Soviet era, featuring free and near-universal access for both genders. National literacy rates were correspondingly high. Recent Multiple Indicator Cluster Survey data still show high and stable school enrolment, retention and completion in Turkmenistan. Within the framework of both the Education for All and Millennium Development Goals the sector performs reasonably well; a notable exception is in the area of quality of education, which the Government is beginning to address as among its highest priorities.

With regard to disaster risk reduction in education, most efforts in this area are made by the National Red Crescent Society of Turkmenistan as well as with the support of other donors.

Cooperation with Turkmenistan is especially viable in the area of seismic risk reduction and education (including the introduction of disaster risk reduction into school and university curricula).

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

The Red Crescent Society of Turkmenistan (RCST) works in close cooperation with the Government and is well known among the population. Since 1999, the RCST has operated a well-trained and equipped search-and-rescue team with experience in rescue operations (including the Spitak earthquake). Under the public safety campaign, the RCST has founded local community-led disaster preparedness committees to raise awareness on preparedness measures and essential knowledge on behaviour in emergency situations. The RCST is well experienced in response to small-scale disasters caused by natural hazards due to flooding and earthquakes. The RCST's chairperson is a member of the State Emergency Management Commission under the Cabinet of Ministers.

The responsibilities for disaster mitigation and response are with the special Directorate within the Ministry of Defence. In 2009, the Government issued a decree resolving to strengthen and expand the functions, responsibilities and overall scope of the work of the Directorate, and allotted over US$200 million to construct a building, procure equipment, and hire

and train additional professional staff.

In March 2011, a government delegation from Turkmenistan requested participation in the Knowledge Management workshop held under the DIPECHO project, which covered seven countries in Central Asia and South Caucasus. Formally not part of the project, Turkmenistan has steadily increased its efforts in disaster risk reduction in general and integration of disaster risk reduction in education in particular. This was followed by a National Conference on Education in early May 2011, where disaster risk reduction in education was given special attention, including the integration of disaster risk reduction into both school curricula and school safety.

UNICEF collaboration with Turkmenistan in education and disaster risk

The overall goal of the UNICEF 2010 – 2015 country programme is to support the progressive and sustainable realization of the rights of children and women consistent with the goals formulated in the "National Programme of Turkmenistan for Transformation of Social Conditions of the Population of the Villages, Settlements, Towns, and Districts up to 2020". The programme aims to improve awareness levels in the population as part of communication and development activities. This will particularly emphasize activities to promote an increased level of awareness among children and legislators on children's and women's rights; life-skills concepts and HIV/AIDS among adolescents; gender issues; and disaster preparedness through a broad-based communication strategy providing national coverage. This will be done using best practices applying different forms of media to reach nationwide coverage. Pre- and post-intervention surveys will be carried out to ensure a more rigorous basis for measuring change.

UNICEF's continued work in disaster and emergency preparedness will contribute to the Government's aim to effectively respond to disasters caused by natural and technological hazards.

The 2005 - 2009 country programme aimed to support the Government and other partners in the development of a comprehensive, rights-based policy framework for ensuring quality, access and use of basic social services. It built on activities undertaken in the previous period, which included the introduction of an innovative methodology for interactive teaching and learning, and for life-skills-based health education and HIV/AIDS prevention for adolescents.

In 2007, the United Nations Regional Centre for Preventive Diplomacy for Central Asia (UNRCCA) was established in Ahsgabat. The Centre was the result of more than five years of consultations with governments in five Central Asian countries and is well positioned to assist Turkmenistan, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan in addressing an array of new threats such as extremism, terrorism, the spread of HIV and AIDS, avian flu, human and drug trafficking, and environmental pressures. In the development sphere, the management of natural resources, labour migration and economic integration present further challenges.

UNRCCA, led by a Special Representative of the Secretary-General, represents an innovative approach to United Nations preventive diplomacy based on cross-cutting regional challenges, strong cooperation with partner organizations and assistance to governments to ensure peaceful growth and development.

UNISDR collaboration with Turkmenistan

UNISDR does not have a Focal Point in Turkmenistan as the country is not a party to the HFA. Nevertheless, contacts and exchanges have been taking place since the first official meetings of UNISDR with the Government of Turkmenistan.

In 2009, a regional seismic conference was organized in Ashgabat within the DIPECHO-V action plan, bringing together the stakeholders and actors in disaster management of the country and the region. The conference agenda included an overview of progress in disaster risk reduction and management in Turkmenistan, as well as a discussion on the ways to further strengthen the country's capacity in this field.

The experts, scientists and specialized NGOs of Turkmenistan actively participate in regional events and thematic conferences organized by UNISDR, and maintain professional and institutional links and contacts in the region.

The UNDAF for 2010-2014 includes more effective preparedness and response to disasters caused by natural and man-made hazards (Millenium Development Goals [MDGs] 1, 3, 6, 7, 8).

The revised UNDAF for 2010-2015 includes:

- Agency Outcome 3.3: National development planners integrate adaptation and preparedness of economic development sectors to climate change into development plans and management.
- Agency Outcome 4.3: National and local authorities and local communities practice more effective planning, response to and mitigation of the consequences of disasters caused by natural or man-made hazards, with regional cooperation established between relevant national agencies and their counterparts.
- Output 4.3.1: National and local authorities have formulated a national framework and a regional coordination mechanism to address the consequences of disasters caused by natural or man-made hazards and set up necessary institutions for their implementation.

Ukraine

Hazards and disasters overview

In terms of the total number of people affected, floods represent the greatest natural hazard in Ukraine. In the period 1980 to 2010, some 13 separate floods affected a total of nearly 2.6 million people, causing 82 deaths and an economic loss of over US$1.2 billion. The country is also vulnerable to natural hazards including extreme temperatures, wind storms and epidemics. Storms have been especially damaging, with seven major storms killing 21 people, affecting over 56,000 others and causing an economic loss of over US$255 million.

The most resent disasters caused by natural hazards were floods in the Trans-Carpathian region in 1998 and 2001, a hurricane in the summer of 2000 and an ice storm that struck the Odessa region in November 2000.

Table 22 Ukraine: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Epidemic	**3**	**11.11**	**275**	**6,771**	**0**
Extreme temperature	**4**	**14.81**	**833**	**59,600**	**85,000,000**
Flood	**13**	**48.14**	**82**	**2,638,294**	**1,298,014,000**
Wind Storm	**7**	**25.92**	**21**	**56,662**	**255,600,000**
Total	**27**	**100**	**1,211**	**2,761,327**	**1,638,614,000**

Disaster management structure and legislation

The Ukraine Ministry of Emergency is the central administrative body that carries out state policy in the field of civil defence, including emergency protection, prevention and response, and avoidance of the consequences of disasters (including Chernobyl). The Ministry is also in charge of disaster management and is responsible for its development. This extensive role involves the development and implementation of a range of civil protection activities, including those involving Chernobyl. They are:

- Supervision of the activities of management bodies, headquarters, civil defence forces and subordinated specialized bodies.

- Coordination of the activities of ministries and other central bodies of the executive power, the Council of Ministers of the Autonomous Republic of Crimea, local state administrations, enterprises, institutions and organizations of all forms to address problems of protection of the population and territory in cases of emergency and emergency response.

- Defining the main directions of protection activities in emergencies, including the rehabilitation of territory contaminated as a result of the Chernobyl catastrophe.

- National supervision and monitoring of civil defence and technological safety, and the conducting of emergency preparedness and prevention measures.

- Arranging and coordinating activities in the exclusive zone and zone of mandatory resettlement, including solving the problems of their financing, public protection and
120 safety (including the health of staff within this territory who are protecting the scientific and economical interests of Ukraine).

- Coordinating the formation and realization of the unified scientific-technical policy involving the development and implementation of modern information technologies - including a civil defence database - to support protection activities and protection from the consequences of Chernobyl.

- Training and retraining of civil defence staff on the problems of protection, including those involving Chernobyl, and the training of the population in emergencies.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

UNDP has engaged in two major relief efforts in Ukraine over the last 10 years. In response to the devastating ice storm that killed six people, injured a further 740, destroyed or damaged many buildings and vehicles, and left hundreds of communities without electricity in the Odessa region in November 2000, UNDP developed the Disaster Response Project for Odessa Oblast to provide emergency assistance to the affected population. A second relief effort followed in March 2001 when melting snow and heavy rainfall caused the Tisa River to flood areas of Trans-Carpathian Oblast in western Ukraine.

UNICEF collaboration with Ukraine in education and disaster risk

UNDP, in cooperation with UNICEF and the Ukraine Ministry of Emergency developed the Trans-Carpathian Disaster Response and Prevention Project. The United Nations played a central role in coordinating national and international flood relief efforts.

The United Nations office in Ukraine has also supported longer-term development measures in response to the Tisa flood, including the preservation of forests, reforestation, improvement of monitoring techniques and early-warning technologies, and a public awareness campaign. A Disaster Management Training Programme sub-regional workshop for Moldova, Romania and the Ukraine was held in June 2003, focusing on environmental and technological disasters.

UNISDR collaboration with Ukraine

Ukraine has officially appointed an HFA Focal Point, the Ministry of Emergencies and Affairs of Population Protection from the Consequences of Chernobyl Catastrophe of Ukraine, as a step in its implementation and pursuit of HFA objectives and strategic goals. Ukraine also actively participated in the Euro-Mediterranean Workshop on Disaster Reduction at School, held in October 2007.

Uzbekistan

Hazards and disasters overview

Significant seismic activity dominates much of the country. Large parts of Uzbekistan's capital city, Tashkent, were destroyed in a major earthquake in 1966, and other earthquakes have caused significant damage before and since. The mountain areas are especially prone to earthquakes. A magnitude 7.0 earthquake of Gazli in May 1976 caused an economic loss of US$85 million, while in March 1984 an earthquake of similar magnitude in the Gazli–Bokhara region affected 201,100 people and caused an economic loss of US$5 million. More recently, in May 1992, a magnitude 6.2 earthquake killed nine people and affected 50,000 others in the Andizhan region.

Drought hazards are also significant, with an event in 2000 affecting 600,000 people and causing an economic loss of US$50 million.

Uzbekistan is also vulnerable to floods and mud flows. A few are caused by snowmelt run-off or severe storms; very large floods and mudslides are generally caused by the outbreak of mountain lakes. There are also trans-boundary hazards from the hundreds of lakes in Kyrgyzstan and Tajikistan that are upstream of Uzbekistan in the Aral Sea basin. In 1998, flooding from the Shakhimardan River originating in Kyrgyzstan killed 100 Uzbeks.

Landslides are a significant hazard in the country's mountain and foothill areas, while there have been over 2,600 extreme mud flows in the past 80 years[62]. A landslide in the Angren region in May 1991 killed 50 people, while a landslide in January 1992 killed one person and affected 400 others. Uzbekistan has also been vulnerable to epidemic hazards. In February 1998, 40 people died and 148 others were affected by bacterial infection.

Table 23 Uzbekistan: Summary data on disasters caused by natural hazards (1980 - 2010), including number of human casualties and economic impact.economic impact.

Disaster	Number of events	Percentage	Total deaths	Total affected	Economic loss (US$)
Drought	1	16.66	0	600,000	50,000,000
Earthquake	1	16.66	9	50,000	0
Epidemic	1	16.66	40	148	0
Flood	1	16.66	0	1,500	0
Mass Movement	2	33.33	25	400	0
Total	6	100	74	652,048	50,000,000

62 Pusch C. (2004). Preventable Losses, Saving Lives and Property through Hazard Risk Assessment, A Comprehensive Risk Management Framework for Central Europe and Central Asia, Disaster Risk Management Working paper series 9, The World Bank.

Disaster management structure and legislation

Over the past ten years, Uzbekistan has placed a greater emphasis on emergency preparedness and prevention as opposed to post-emergency recovery strategies, which typified the response to disasters before 1995. However, despite government efforts to increase financial resources, and the actions of sector ministries and local governments, disaster losses and their consequences are not decreasing.

The Ministry of Emergency Situations (MoES) is the central body which manages and coordinates activities in the realm of civil protection, prevention and avoidance of emergency situations, including those that are the consequence of disasters. The MoES:

- Coordinates the work of ministries, agencies, the Council of Ministers of the Karakalpakstan Republic, khokimiyats (local authorities), oblasts, cities and regions on protection of the population and cultural heritage, prevention and avoidance of emergencies caused by accidents or disasters.
- Coordinates activities aimed at preventing large-scale emergencies, including the creation of forces and facilities necessary for this purpose, and maintaining their preparedness.
- Develops and implements relevant scientific and technical programmes to prevent emergencies which threaten the population and the national territory, or the stability of national economic assets.
- Manages public awareness through emergency training for the population, officials and units of the Emergency Situation State Council (ESSC).
- Establishes international cooperation on issues falling under the Ministry's competence.

Furthermore, in due order and within its mandate, MoES decisions are binding and their execution by the following is obligatory: ministries, agencies, associations, the Council of Ministers of the Republic of Karakalpakstan, oblasts, urban and district administrations, enterprises, institutions and organizations.

Disaster risk management priorities are to:

- Exchange technical achievements to enhance prevention, and to conduct mutual research.
- Conduct exchanges to develop government structures, and improve economic resilience and the capacities of civil protection personnel.
- Gain familiarity with the disaster-related experiences of other countries to enhance the development of a national system of prevention, including the development of mutual projects.
- Share operational information, especially with bordering states, regarding the forecasting of necessary assistance.
- Develop the capacities of training specialists and conduct joint training.
- Share experiences among citizens to enhance prevention.
- Participate in disaster risk reduction activities in other countries using members of the "International register fast reaction" forces.

Legislation relevant to disaster risk reduction includes the Resolution of the President of the Republic of Uzbekistan "On the Measures Aimed at Prevention of Emergency Situations Associated with Floods, Mud flows, Snow Slides and Landslides, and Liquidation of their Consequences".

Uzbekistan should also be commended on its school safety assessment and retrofitting programme. This national programme was announced by the Government of Uzbekistan in 2004 and successfully ended in December 2009. Almost 10,000 schools have been physically assessed, followed by retrofitting, reconstruction or, in some cases, demolition of dangerous school buildings. More importantly, Uzbekistan's experience can be replicated in other republics of Central Asia as the types of buildings and building codes are common to all republics of the former Soviet Union. Moreover, scientists and experts from Uzbekistan are willing to share their good practices and a series of meetings and round tables to this effect have been planned under the proposed project.

How education is used to promote safety

Specially-designed trainings targeting specific sections of society and aimed at ensuring personal safety have been approved by the Ministry of Public Education and the Ministry of Higher Education63. The programmes run across a broad spectrum of educational institutions, from pre schools, through secondary schools, to colleges, universities and institutes for teacher advancement.

The training of senior personnel of local executive authorities, enterprises and organizations is provided on the basis of the Institute of Civil Protection of the MES. In the regions, training is provided by "centres for preparedness of the population and executive staff of local structures". The annual training programme is approved by the Prime Minister, who is head of civil protection.

Population awareness training is carried out at institutions, enterprises and organizations in accordance with a specially-developed programme, as well as through mass media including the printed press, radio and TV.

A joint MoES /UNICEF project "Risk reduction among vulnerable population groups, particularly children and women, in the six oblasts of Uzbekistan most exposed to natural disasters" was implemented from April 2007 to June 2008. The primary goals of the project were:

- To train the population on action-planning skills before disasters caused by natural hazards, as well as to respond during and after disasters in order to mitigate their consequences.
- To strengthen the capacity of the Population and Administrative Bodies Training Centres, under the regional Departments of Emergency Situations, to coordinate and carry out measures for natural disaster preparedness of mahallas (communities), schools, nursery schools and medical facilities.
- To ensure safety of life through training programmes for all categories of the population. The specially-designed educational programmes, approved by the Ministry of People's Education and Ministry of High Education, embrace the preschool institutions, secondary schools, colleges and universities, and the teacher-training institutes.

Selected national and international partners involved in disaster risk reduction

National organizations and international partners

The Ministry of Emergency Situations is the key national body for multi-sectoral coordination and cooperation in the area of disaster risk reduction in the Republic. The MoES was established by a Decree of the President of the Republic of Uzbekistan, dated 4 March 1996. There are regional (territorial) departments of emergency situations operating in each of the country's 14 regions, with district emergency units established in individual districts. There is a State System for Prevention of and Response to emergency situations (SSPR), which established in Uzbekistan the structure and operating procedures defined in the resolution of the Cabinet of Ministers of the Republic of Uzbekistan #558, dated 23 December 1997. The financing of prevention and recovery activities in the sphere of protection of the population and territories is provided by organizations, state executive authorities and other sources. In cases where such funding is insufficient to cover the cost of recovery and reconstruction, additional resources from the reserve fund of the Cabinet of Ministers can be used. Legislation defines the procedures governing the formation of capital assets for protection of the population and territories. The State provides annual funding for the replenishment of funds and the emergency stock of food, medicines and other resources necessary to support the population is cases of relocation to safe areas in emergency situations.

The MoES exercises coordination and control over the preparation of the population on the basics of life safety. The MoES regularly conducts special exercises and trainings on population preparedness and disaster risk reduction. Within the programme on emergency situations prevention, the Red Crescent Society fulfils the projects at community level. This can involve such activities as the planting of seedlings on slopes prone to landslides, the cleaning of drainage systems in order to decrease the level of ground water, and the cleaning of riverbeds, channels and gullies for the bypassing of flood waters and mud flows etc.

Similarly, the Institute of Geology and Geophysics of the Academy of Sciences of Uzbekistan has undertaken certain mitigation activities related to seismic hazards, such as the reinforcement of school buildings, the provision of preparedness trainings to school children, and the development and publishing of awareness brochures under the motto "preparedness begins at schools".

A joint project between the MES and UNICEF - and with the participation of the ministries of Public Education and Health, and the Mahalla Fund - was implemented aimed at reducing the damage from disasters caused by natural hazards among vulnerable groups of the population, particularly women and children. The project was designed to strengthen the capacity of the Population and Administrative Bodies Training Centres and enhance the disaster preparedness of mahallas, schools, nursery schools and medical facilities.

UNICEF collaboration with Uzbekistan in education and disaster risk

The new UNICEF Country Programme Action Plan signed with the Government of Uzbekistan for 2010 - 2015 includes a disaster preparedness and disaster risk reduction element that will enhance the Government's disaster preparedness strategy, particularly in the education sector. As part of a component included under the programme Strengthening National Capacity for Social Policy Development and Implementation, the disaster preparedness capacities of local governments, communities and schools in such areas will be further strengthened in risk assessment, planning, mitigation and awareness.

As a result, selected local communities will show greater resilience and have stronger networks. The Ministries of Emergency Situations and Public Education, UNDP, International Committee of the Red Cross and EC will be major partners.

In the framework of the new CPAP, the partnership with the following organizations will be continued: Ministry of Emergency Situations; Ministry of Public Education; Ministry of Health; Institute of Civil Protection of the Ministry of Emergency Situations; Institute of Seismology of the Academy of Sciences; provincial Khakimiyats of nine regions; provincial Departments of Emergency Situations of the Ministry of Emergency Situations; provincial/rayon Departments of Public Education of the Ministry of Public Education; provincial/rayon Departments of Health of the Ministry of Health; Civil Protection Training Centres of the Ministry of Emergency Situations; In-Service Teacher Advanced Training Institutes of the Ministry of Public Education and In-Service Qualification Improvement Institutes for Medical Staff Advanced Training; Makhalla Charity Foundation; local NGOs; Red Crescent Society of Uzbekistan; Handicap International; Netherlands Red Cross; Europe House; UNCT; and UNISDR.

The project has made solid developments in the area of disaster preparedness education. These have included a targeted programme on Educating the Population for Potential Emergency Situations, which covered the period 2007 – 2011. With DIPECHO funding support, by the end of the project the Government's strategy and action plan had been improved in terms of preparedness and risk reduction, and vulnerable communities had been supported through the introduction of the participatory disaster preparedness and risk reduction information system adopted by the Civil Protection Department and Centre of Management in Crisis Situations of the Ministry for Emergency Situations. The latter coordinates the state, private, and civil society organizations on disaster prevention and recovery/rehabilitation in emergency situations.

UNICEF has been working in Uzbekistan since 1994. Its first programme, which ran from 1995 to 1999, provided supplies, training and techniques for healthcare, backed by social mobilization. By 1999, basic services for children were well under way, allowing the organization to shift to a rights-based approach aiming to ensure that the Convention on the Rights of the Child became the standard for health and education and for measures to protect children. The drought emergency programme was completed in 2004.

Since 2008, Uzbekistan has been part of the DIPECHO programme implemented by UNICEF with the financial support of the DG ECHO. The programme involves implementing disaster mitigation and preparedness activities within the education sector.

Under the DIPECHO programme, the UNICEF country office and its government counterparts, mainly from the national education and emergency departments, are implementing a range of disaster risk reduction interventions aimed at policy, institutional and operational as-

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pects. In particular, the programme aims to strengthen the national capacities and systems for disaster safety, especially targeting the selected schools in each country. The project has been implemented in 26 communities in 26 districts. UNICEF identified schools and communities so as to avoid overlap and ensure a coordinated action among organisations working in the area of preparedness and risk reduction. Schools have been identified using a cluster method of selection, with communities selected based on the MES's record of disaster frequency in those localities. The direct beneficiaries of the project for Uzbekistan are children in schools and kindergartens, teachers and other school staff, parents of school children and adolescents, community leaders as well as emergency, education and health sector officers.

UNISDR collaboration with Uzbekistan

Under the auspices of UNISDR, the State Technical University in Tashkent and the local NGO Hayot developed two training courses for university students on "first aid" and "amateur search and rescue service". By a decree of the Minister of Secondary Special and Higher Education, the two courses were integrated in 2009 into the formal curricula of 67 universities in Uzbekistan. This experience was further presented in Tajikistan and Kazakhstan (Almaty) and deserves further replication.

A number of meetings between UNISDR and the MoES in 2008 and 2009, along with the national workshops on Hospital Safety, National Coordination and other fields, revealed a high degree of commitment by the central Government and line ministries to disaster risk reduction. The MES operates on the basis of well-developed and thorough legislation that enables supervision and control over the quality of construction in residential, public and industrial sectors.

Uzbekistan has initiated internal procedures to appoint as its HFA Focal Point the Ministry of Emergency Situations as a step in its implementation and pursuit of HFA objectives and strategic goals.

Conclusions and Recommendations

For the majority of countries of South Eastern Europe and the Commonwealth of Independent States disaster management structures and legislation are in place. However, for the most part they are focused towards rescue and relief rather than the more complex cross-cutting notion of disaster risk reduction. Efforts are still under way to fully establish the disaster risk reduction agenda across the region, and this includes in the education sector. For this to succeed and the mechanics of disaster risk reduction to be set in place the approach must be both strategic and systematic. It will require the focusing of initiatives in all countries and will involve the dissemination of disaster risk reduction information to all sectors, levels, key institutions and other stakeholders.

The HFA national reports show that only a very few countries have developed nationwide public awareness strategies to promote a culture of resilience. This highlights the need for National Platforms to include the development of public awareness strategies as a priority and engage communications teams to inform and educate the public in safety measures.

The presence and areas of engagement of selected United Nations agencies as well as national and international organizations have been observed in order to highlight on-going activities related to disaster risk reduction. Sometimes activities have been sporadic and conducted at local level, such as visits by fire-fighters to schools in Bosnia and Herzegovina, and these need to be systemised. There are also examples of a more systematic approach, such as the training of over 140,000 front-line workers in Turkey as part of measures to combat the spread of avian influenza.

UNISDR is working through a growing network of National Platforms and HFA Focal Points to mobilize governmental actions in disaster risk reduction as well as directly with the governments in the region, regional organisations and United Nations Country Team members. It has also built effectively on regional organizations, partners and networks to facilitate the effective implementation of disaster risk reduction initiatives, strategies and programmes. There are now a total of seven National Platforms operating in the CEECIS region, while several other countries have informed UNISDR that they are in the process of developing them. A further 11 countries already have HFA Focal Points.

Various activities have been held within the framework of the UNISDR global campaign Disaster Risk Reduction Begins at School, which was held from 2006 to 2007 to promote the integration of disaster risk reduction within education sectors while at the same time facilitating the development of disaster-resilient schools through safety programmes and the retrofitting of school buildings. One such project was a workshop organized by UNICEF in partnership with UNISDR on Earthquake-Safer Schools in Armenia. The key workshop objective was to increase the awareness of school administrators to school resilience to earthquakes and their actions before, during and after an earthquake, and to facilitate a dialogue between school administrators, government officials and international organizations. The workshop identified problems shared by schools in other CIS countries. The current campaign Making Cities Resilient builds on the Disaster Risk Reduction Begins at School campaign and focuses on activities related to the local level. A number of cities have joined this campaign.

There are several positive aspects to the way in which a disaster risk reduction agenda is being pursued in the CEECIS region. Among them is the establishment in several countries of Ministries of Emergency Situations and on-going exchanges with the other line ministries, which suggests a stage has been reached in the development of multi-sectoral platforms for disaster risk reduction. Furthermore, in several countries there is recognition that although current work on disaster risk reduction is limited efforts are nevertheless under way to integrate it more fully into disaster management structures, legislation and education.

There are various examples across the region of how UNICEF has successfully integrated disaster risk reduction into its country programmes. From mine-risk education in Bosnia and Herzegovina to active disaster risk reduction among vulnerable communities in Kazakhstan as part of DIPECHO V, and now also DIPECHO VI, and the mainstreaming of disaster risk reduction into education programmes in Turkey, UNICEF has demonstrated a growing emphasis on the provision of education and training to enhance prevention and preparedness for emergencies. The incorporation of disaster risk reduction into its life-skills and child-friendly schools programming has helped facilitate this. Furthermore, as is the case in Kyrgyzstan where there may not have been any active disaster risk reduction in education in previous UNICEF country programmes, there are plans to mainstream disaster risk reduction into formal and non-formal education in subsequent programme cycles.

The report also highlights how the engagement of UNICEF and other committed UNCT members benefiting from a national presence, and UNISDR with its role in coordinating, advocating and informing, offers opportunities for enhanced collaboration in this sector.

The CEECIS region has a history of vulnerability to disasters caused by natural hazards, many of which have been of devastating proportions. Moreover, there is a discernible escalation of such disaster events, many of them attributable to hydro-meteorological factors, which is threatening sustainable development and poverty-reduction initiatives in disaster-affected countries. It is therefore imperative that disaster risk reduction must become an important aspect of poverty-reduction and general-development initiatives to both mitigate the negative effects of human activity on the environment while at the same time developing capacities to deal with them.

It is in this respect, and in recognition of the opportunities for cooperation and synergies that exist among agencies and governments in the CEECIS region, that the following recommendations are made to enhance the effectiveness and efficiency with which the challenges posed by education in disaster risk reduction are addressed.

Recommendations

The general conclusion of this report is that there is an overall need to increase the promotion of disaster risk reduction in the education sector throughout the CEECIS region.

- The UNISDR global campaign Making Cities Resilient represents a common tool that combines the works of UNISDR, UNICEF and regional, national and local actors and should be systematically promoted as part of UNICEF activities.

- National Platforms, through Ministries of Education, should embrace as part of their work plans the inclusion of disaster risk reduction knowledge in relevant sections of school curricula at all levels and the use of other formal and informal channels to reach youth and children with information.

- The implementation of sustainable pro-

grammes and activities in schools should be promoted to teach how to minimize the effects of hazards. This should be included with other on-going activities.

- UNISDR and UNICEF should jointly develop training and learning programmes in disaster risk reduction targeted at specific sectors (development planners, emergency managers and local government officials, etc.).

- UNICEF should promote community-based training initiatives, considering the role of volunteers as appropriate, to enhance local capacities to mitigate and cope with disasters.

- There should be equal access to appropriate training and educational opportunities for women and vulnerable constituencies; gender and cultural sensitivity training should be promoted as integral components of education and training for disaster risk reduction.

- Improving the safety of school buildings – including a risk assessment of areas where schools are located and by retrofitting schools in earthquake-prone areas – to contribute to the care and protection of learners, with schools as "protective environments", could be appropriately initiated through the joint collaboration of UNISDR and UNICEF.

- Risks associated with critical infrastructure could be reduced by strengthening education and health infrastructure in hazard-prone areas through community-based initiatives in pilot countries and further elaborated through the lessons learnt.

- Based on the present experience, UNICEF and UNISDR could further advocate appropriate knowledge, skills, attitude and behaviour in relation to disaster risk reduction – thus addressing curriculum relevance.

- UNICEF and UNISDR should continue to further opportunities to encourage and support national governmental partners in mainstreaming disaster risk reduction issues into official educational curricula at the strategic level by using the fruitful partnerships already established with national education authorities in the region.

- Existing programme and project activities addressing education in disaster risk reduction should be updated in an orderly fashion, including new developments and key topics such as climate change adaptation, thus keeping the initiatives relevant to the changing world scenario.

- The on-going life-skills and child-friendly programmes should be a standard targeted programme where disaster risk reduction knowledge should be systematically integrated.

- UNICEF and UNISDR should jointly promote the ISDR Global Campaign with national and local counterparts. This should include the translation of the campaign tool into local languages.

- Knowledge management of awareness-training materials should be enhanced in CEECIS at the regional and national levels to ensure that information developed can be identified and used.

- National Platforms and HFA Focal Points should support the development of nationwide public awareness strategies to motivate a culture of resilience, including the engagement of communications teams to inform and educate the public in basic safety measures. Adequate support can be provided by the UNICEF and UNISDR regional offices to share good practices in the region.

- Information on disaster risk and protection options, especially for citizens and lead authorities in high-risk areas, should be easily available to enable them to take action to reduce risk and build resilience. UNICEF and UNICEF could help initiate discussion forums specific to the region to enhance communications.

- Authorities at national and regional levels should strengthen the technical and scientific capacities to develop and apply methodologies, studies and models to assess vulnerability and the impact of hazards.

End Notes

List of DRR-related documents and other sources of information

GLOBAL

UNISDR

Hyogo Framework for Action
ISDR System Joint Work Programme for 2008-2009
International Day for Disaster Reduction, 10 October 2007 (downloaded from Internet)
Let our Children Teach Us (publication)
Towards A Culture of Prevention: Disaster Risk Reduction begins at School (publication)
Gender Perspective: Working Together for Disaster Risk Reduction (publication)
Global Platform Meeting June 2006, Cl Jean Rakotomalala, ES of BNGRC, Madagaskar & Prof Gérard Rambolamanana, IOGA University of Antananarivo – Education for DRR and Safer Schools in Communities at Risk: Case of Madagascar
Farokh Parsizadeh, Research Associate Director of Public Education, International Institute of Earthquake Engineering and Seismology (IIEES) - School Earthquake Safety Education Present and Future
The 2006-2007 World Disaster Reduction Campaign: Brief Overview
Annual Disaster Statistical Review: Numbers and Trends, 2006
Global Platform Meeting June 2006, G. Tetzlaff, J. Stuck (DKKV) - Necessity of tertiary education to better implement disaster reduction
Disaster Risk Reduction: A Global Awareness Campaign in the Americas
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UNISDR	National Report
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Russia

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Tajikistan

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Children and disasters: Building resilience through education

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