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**ACCORD EUROPEEN ET MEDITERRANEEN
SUR LES RISQUES MAJEURS
(EUR-OPA)**

**EUROPEAN AND MEDITERRANEAN
MAJOR HAZARDS AGREEMENT
(EUR-OPA)**

RESEAU DES CENTRES EURO-MEDITERRANEENS SPECIALISES DE L'ACCORD EUR-OPA RISQUES MAJEURS
PROGRAMMES COORDONNES EN 2011

Provisoire

NETWORK OF SPECIALISED EURO-MEDITERRANEAN CENTRES OF THE EUR-OPA MAJOR HAZARDS AGREEMENT
2011 COORDINATED PROGRAMMES

Draft

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1.B. NETWORKING BETWEEN GOVERNMENTS

Regional UNECE/FAO/CoE Forum on Cross-Boundary Fire Management (GFMC - FREIBURG)

The activities of the Global Fire Monitoring Center (GFMC) were devoted to prepare the rationale / justification and a concept for the development of a regional voluntary or legal agreement on transboundary cooperation in fire management. While this is a multi-year endeavor, the specific objectives included, as laid down in the Administrative Arrangement.

The 2011 activities, however, are scheduled at a crucial stage of a regional dialogue (both within the CoE and UNECE activities) and in the aftermath of severe wildfire episodes, notably the fire episode in Western Russia in 2010. For 2011 a "UNECE-FAO / CoE Regional Forum on Cross-boundary Fire Management" (date and location to be defined) will be prepared and conducted, in conjunction with the overall objectives of the UNISDR Global Wildland Fire Network and its 4-annual Global Forum, the 5th International Wildland Fire Conference (South Africa, May 2011) (follow-up of the 4th Int. Conference in Sevilla, Spain, 2007). For the preparation of the Forum representatives from EUR-OPA signatory states that are active in the ongoing work of the GFMC and the newly established RFMC and its associated UNISDR Regional Southeast Europe / Caucasus and the Regional Eurasia Wildland Fire Networks will organize an internal side meeting at the South Africa Conference, at the same time contribute to the conference and jointly formulate the recommendations of the conference. The second step will be the Forum itself in which these representatives shall attend on behalf of their government agencies.

The expected results of the work funded by CoE in 2011 were aimed to be in line with the work of the UNECE / FAO Team of Specialists on Forest Fire in developing a Draft of a Regional Agreement on Cross-boundary Cooperation in Fire Management in the UNECE Region, associated with EUR-OPA.

Change of Plans, Procedures and Budget during Calendar Year 2011

The originally envisaged series of activities, as laid down in the planned expenditures (Annex 1 of the AA), needed to be changed when a decision was made by UNECE and GFMC in mid 2011 to postpone the organization of the Forum, first from 2011 to January 2012, and subsequently and finally to early 2013.

However, the type of expenditures (work contracts with focal points from CoE / UNECE member states for the preparation of consultative meetings or dedicated side meetings at international conferences in preparation of the Forum, including funding for travel) were not changed substantially. Only some catering budget for the originally planned Forum (with € 1300 being a minor part of the total grant) were rededicated to travel and work contracts.

Preparation of the Forum (I)

Between March and August 2011 a student helper was employed part time to assist data collection and communication for GFMC as secretariat of the planned Forum and to support Prof. Nikolov.

In March 2011 the Focal Point of FYR Macedonia, Prof. Dr. Nikola Nikolov was contracted to work at GFMC in Freiburg (Germany) to prepare a side event and the contributions of the GFMC and the UNISDR Regional Eurasia Wildland Fire Network at the 5th International Wildland Fire Conference (South Africa, May 2011).

In May 2011 five representatives of the UNISDR Regional Eurasia Wildland Fire Network attended the 5th International Wildland Fire Conference and contributed (a) with presentations on achievements of the EUR-OPA-supported activities in fire management in the CoE/UNECE region, and (b) conducting a Regional Meeting representing the CoE/UNECE region. Five delegates attended and were partially or entirely contracted / sponsored, depending on contributions of home institutions. The delegates represented Serbia (Ms. Vidosava Jovanovic), FYROM (Prof. Nikolov), Turkey (Prof. Bilgili), Ukraine (Prof. Zibtsev), and for a small extent (registration fee only) for GFMC Director (J.G. Goldammer).

Preparation of the Forum (II)

After the postponement of the Forum to 2013 the activities for the preparation nonetheless continued. First, Ms. Anja Hoffmann, GFMC-associated staff, was sent to the meeting of the GODF-GOLC Fire Implementation Team in Stresa, Italy, October 2010, in order to solicit inputs from the satellite remote sensing community in preparation of the Forum. One of the outcomes of the meeting was a decision to jointly organize a "Eurasian Conference on User Requirements of Remote Sensing Information on Wildland Fires". The government of Russia subsequently agreed to host the conference, tentatively late 2012, as a preparatory activity to the Forum.

The remaining time of the year and funding was used to conduct a 1-week work session with the focal points of the UNISDR Regional Wildland Fire Networks of Eurasia (Mr. Andrey Eritsov) and SE Europe / Caucasus (Prof. Nikolov) at GFMC in Freiburg (Germany) to prepare a questionnaire for CoE / UNECE Member States or collecting country information for the preparation of the Forum.

Associated Activities in 2011

Activities of the GFMC in Southeast Europe / Caucasus in conjunction with the ENVSEC Project Phase II (and proposed Phase III) “Enhancing National Capacity on Fire Management and Wildfire Disaster Risk Reduction in the South Caucasus” (financed by ENVSEC through OSCE Secretariat) continued in 2011. Outreach work of the UNISDR Regional Southeast Europe / Caucasus and Eurasia Wildland Fire Networks and the newly established Regional (SE Europe/Caucasus) Fire Monitoring Center(<http://www.rfmc.mk/>;
see also: http://www.fire.uni-freiburg.de/GlobalNetworks/SEEurope/SEEurope_1.html) continued:

Extracts from GFMC Calendar:

30 June - 6 July 2011

Wildland Fire Assessment Mission and First National Round Table for developing a National Fire Management Policy for Azerbaijan, a contribution of Phase II of the Environment and Security Initiative (ENVSEC) “Enhancing National Capacity on Fire Management and Wildfire Disaster Risk Reduction in the South Caucasus” through GFMC and the Organization for Security and Co-operation in Europe (OSCE), in conjunction with EUR-OPA (J.G. Goldammer); Baku and field sites, Azerbaijan.

- <http://www.osce.org/>
- <http://www.envsec.org/>
- [First National Round Table Agenda](#)
- http://www.coe.int/t/dg4/majorhazards/centres/presentation/gfmc_EN.asp

10-15 September 2011

Fire management training course, national forest fire exercise and National Conference & Round Table for developing a National Fire Management Policy for Armenia, a contribution of Phase II of the Environment and Security Initiative (ENVSEC) “Enhancing National Capacity on Fire Management and Wildfire Disaster Risk Reduction in the South Caucasus” through GFMC and the Organization for Security and Co-operation in Europe (OSCE), in conjunction with EUR-OPA (J.G. Goldammer, N. Nikolov, E. Bilgili); Kapan, Yerevan and field sites in Syunik Marz, Armenia.

- <http://www.osce.org/>
 - <http://www.envsec.org/>
 - [Armenia Forest Fire Conference and First National Round Table Programme](#) (PDF)
 - Online report by UNDP: http://www.nature-ic.am/en/Forest_Fire_Events_12_14.09.11
 - Media coverage: http://www.fire.uni-freiburg.de/media/2011/09/news_20110914_am.htm (For access use user name „fire“ and password „1“)
- http://www.coe.int/t/dg4/majorhazards/centres/presentation/gfmc_EN.asp

These activities in capacity building were financed by OSCE / ENVSEC, but are considered as joint activities under the umbrella of CoE-EUR-OPA, UNECE and OSCE.

Summary

The decision to postpone “UNECE-FAO / CoE Regional Forum on Cross-boundary Fire Management” to early 2013 will bring an overall delay of the political process but has not slowed down the preparatory work. UNECE meanwhile has submitted a financing proposal to the German Government for the further preparation of the Forum in 2012 and the financial support of organizing the Forum in Geneva in early 2013. The interim financing of the dedicated work through the Administrative Arrangement by EUR-OPA was important and instrumental in order to keep the momentum alive in 2011.

Contribution to the organisation of the International Conference "Twenty-Five Years after Chernobyl Accident: Safety for the Future", Kiev, 20-22 April 2011 (TESEC, KIEV)

April 26, 2011 marks 25 anniversary of the Chernobyl accident. In many countries nuclear technology is seen as one of the increasingly important solutions for meeting rising energy demands, reducing greenhouse gas emissions, mitigating climate change, counterbalancing fluctuating prices of fossil energy sources. At the same time the Chernobyl's legacy should be carefully taken into account.

How to use Chernobyl lessons for the safety of nuclear power and other hazardous technologies, to protect people and the environment from emergency - this is the main objective of the international conference "Twenty-five Years after Chernobyl Accident. Safety for the Future", Kyiv, April 20-22, 2011.

The conference addressing to the following key issues:

- *nuclear and radiological risks - cooperation of governments and communities;*
- *effects of nuclear and radiological accidents to human health and the environment;*
- *Chernobyl "Shelter", Chernobyl NPP decommissioning, strategy for radioactive waste and spent nuclear fuel management;*
- *development of prevention and response to nuclear and other man-made disasters, emergency planning, public awareness and involvement population in the emergency planning, post-accident radiation monitoring;*
- *radiological consequences of Chernobyl accident, agriculture production on the contaminated area, social and economic development of Chernobyl-affected areas: successful models of development, overcoming of stereotypes and enhancing investment attractiveness of regions;*
- *scientific achievements and new technologies for the safety of the future.*

725 participants from 43 countries took a part in conference.

The conference started from Statements on behalf of the Conference organizers, Governments and International organizations.

from Ukraine, Nikolay Azarov, Prime-Minister of Ukraine

from the UN, Ban Ki-moon, Secretary-General

from UNESCO, Irina Bokova, Director-General

from the Council of Europe, Thorbjørn Jagland, Secretary-General

from IAEA, Yukiya Amano, Director General

from the European Commission, Andris Piebalgs, Commissioner for Development

from WHO, Zsuzsanna Jacob, Regional Director

from International Federation of Red Cross and Red Crescent Societies, Matthias Schmale, Undersecretary General,

from European Bank for Reconstruction and Development, Thomas Mirow, President,

from European Forum for Local and Regional Disaster Management, Jan Mans, President,

The key scientific reports to conference were mainly presented for plenary sessions April 21 and 22.

1. "Radiological risk: the need to be informed, the right to be protected"

Eladio Fernandez - Galiano, Council of Europe

2. "Chernobyl: lessons of safety" Volodymyr Kholosha, Head, State Agency of Ukraine for the Exclusion Zone Management, Ukraine

3. "ARCH – a programme of scientific research on Chornobyl health issues" Ausra Kesminiene, representative of the WHO International Agency for Research on Cancer

4. "International support towards the mitigation of the Chornobyl accident consequences" Gunter Pretsch, representative of the Society for Technical and Nuclear Safety, Germany

5. "Nuclear safety in the 21st century: reflecting on the lessons learnt" Jacques Repussard, Director, Institute of Radiation Protection and Nuclear Safety, France

6. "Shelter facility: prospects and challenges" Ihor Hramotkin, ChNPP Director-General

7. "Strengthening nuclear safety and radiation protection: lessons learnt from Chornobyl" Olha Makarovska, Deputy Head, State Nuclear Regulation Inspectorate, Ukraine

8. "Chornobyl and new knowledge" Vyacheslav Shestopalov, Director, Scientific and Engineering Centre for Radiohydrological Range Studies, NAS of Ukraine

9. "Outcomes and prospects of the Chornobyl accident consequences elimination in Russia" Tatyana Marchenko, MoE, the Russian Federation

10. "Enhancing national programmes in support of economic development of the territories affected by the Chornobyl accident" Jerzy Osiatynski, IAEA, UNICEF, UNDP, WHO

11. "The activities of the Belarusian State to overcome consequences of the Chornobyl disaster" Vladimir Chernikov, MoE, Republic of Belarus
12. "Perception of radiation risks: 25 years after the disaster", Andrii Serdiuk, President, AMS of Ukraine
13. "Consequences of emergency irradiation for human health: a basis for risk assessment" Mikhail Balonov, UNSCEAR
14. "Radiological and medical consequences of the Chornobyl accident: lessons learnt" Volodymyr Bebesko, Director-General, National Centre for Radiation Medicine, AMS of Ukraine

Also some important reports have been presented on sections.

The last version of the conference program have been discussed March 30, 2011 on the meeting of the International Program Committees of the International Conference "Twenty-Five Years after the Chernobyl Disaster. Safety for the Future", chaired by Minister of Emergencies.

The program committee created international working group for Conclusions and Recommendation development.

1. Volodymyr Kholosha, Head of the Working Group, Ministry of Emergencies of Ukraine
2. Hartmuth Teske, GRS
3. Michel Chouha , IRSN
4. Viacheslav Shestopalov, NAS
5. Victor Poyarkov, TESEC
6. Volodymyr Bebesko, AMS
7. Gerhard Proehl, IAEA
8. Oksana Leschenko, UNDP
9. Representative of the Russian Federation
10. Representative of the Republic of Belarus 18

The working group developed the conference conclusions and recommendations

2.A. KNOWLEDGE DIFFUSION

Post-Graduate Training School on Coastal Hazard Assessment and Risk Management 19-25 June 2011 (CERG, STRASBOURG)

Local coordinator

Prof. Olivier Maquaire (Cerg executive secretary), University of Caen Basse-Normandie (France).

Global objective

To provide high-level training school in the field of coastal hazard assessment and risk management to European young scientists and promote scientific and technological excellence in the science of coastal hazard and risk by organizing a multi-disciplinary high-level school in 2011 (in addition of the previous FORM-OSE schools focused on '*Living with hydro-geomorphological risks: from theory to practice*', Strasbourg (2004); '*Muti-Risks: concepts to approach multiple hazards*', Bonn (2006), '*Quantitative Risk Assessment*', Barcelona (2008).

Results obtained in 2011

The FORM-OSE Post-Graduate Training School '*Coastal hazard assessment and risk management*' took place in Caen (France) between the 19th and 26th of June 2011. The training school has been organized by the CERG, in close collaboration with the '*Euro-Mediterranean Centre on Insular Coastal Dynamics*' (ICoD, Valletta, Malta).

Further support was provided by the *University of Caen Basse-Normandie* (Department of Geography, the Laboratory '*Physical Geography and Environment*' GEOPHEN - LETG UMR 6554 CNRS), the *International Association of Geomorphologists* (IAG) represented the first day of the course by the French IAG Vice-President (Eric Fouache) and the *French Geomorphology Group* (GFG).

The aim of the course was to provide the participants with updated knowledge on traditional and innovative multi-disciplinary methods and techniques for the analysis of geomorphological coastal instability processes and related hazards and risks. The attendees have gained knowledge on the following topics:

- 1) Principles of sustainable coastal risk management strategies,
- 2) Techniques for coastal process investigation and monitoring,
- 3) Methods for quantitative hazard and risk analysis at various temporal and spatial scales,
- 4) Implementation of the risk analysis in land-use planning procedures.

Courses were given by international scientists from the field of geomorphology, engineering geology, geophysics and image processing. Twenty lectures from teachers (geomorphology, engineering geology, geophysics and image processing) coming from France, Italy, United Kingdom, Malta, Portugal and The Netherlands were organized, together with practical training in the field for slope processes recognition and monitoring, practical training in data processing and field visits (Mont Saint Michel bay 'UNESCO World Heritage Site' & Etretat-Fécamp shoreline).

Twenty one participants have assisted to the Intensive Course (18 PhD-students and 3 technicians and engineers who work in '*management and/or applied research services*') from eight countries (United Kingdom, Denmark, France, Greece, Italy, Morocco, Portugal and China). Eleven of them were supported by IAG, EUROPA & CERG funds

Dissemination of project results:

All presentations of the course could be downloading on the CERG website: <http://cerg-coe.eu> (Training activities)

2.B. RISK MAPPING AND VULNERABILITY

Coastline at Risk: Methods for Multi-Hazard Assessment, [*\(CERG, STRASBOURG\)*](#)

Local coordinator

Prof. M. Soldati, University of Modena e Reggio Emilia, (Italy), Prof. O. Maquaire, CERG Executive Secretary & University of Caen Basse-Normandie (France), Dr. J. L. Zezere, CERG Executive Member & Faculty of Geography, Lisbon (Portugal) and possible others.

Global objective

In recent years, the interest in coastal instability has increased significantly due to disasters that occur every year in different parts of the World, often inducing risk situations. This research project can be included within this context and aims at investigating coastal instability in the island of Malta (Mediterranean coastline) and in the Lower Normandy (Channel coastline) compare the results to be obtained with those achieved in recent years by the proponents of this project in the different parts of the European countries.

This will provide a significant opportunity for scientific discussion based on the assessment and comparison of data regarding instability situations in the context of multi-hazards assessment. The latter has been until now slightly dealt with in the island of Malta and in the Normandy coast, despite significant risk issues, as evidenced from a series of accidents/damages recorded after landslide events (crisis).

The project aims at the reconstruction of the recent geomorphological evolution and to assess landslide hazard of the north-west coast of the island of Malta, that is mainly due to rock spreading and rock falling, and of the north-east coast of Lower Normandy, that is mainly due to rotational and translational landslides with regular crises. The objectives of the project will be pursued through multidisciplinary investigations which will foresee a geomorphological and engineering geological approach. Integrated avant-garde research methods and techniques, both traditional and innovative, will be applied with special reference to mapping, monitoring and modelling coastal instability phenomena. For hazard assessment, research will take into account different scenarios of global change with sea level rise.

The final objective (third year) is to propose a method for multi-hazard assessment allowed to define the assessment of susceptibility (spatial probability and magnitude) and assessment of hazard (temporal probability and intensity) for coastline hazards.

The project aims at the reconstruction of the recent geomorphological evolution and to assess landslide hazard of the north-west coast of the island of Malta, that is mainly due to rock spreading and rock falling, and of the north-east coast of Lower Normandy, that is mainly due to rotational and translational landslides with regular crises. The objectives of the project will be pursued through multidisciplinary investigations which will foresee a geomorphological and engineering geological approach. Integrated avant-garde research methods and techniques, both traditional and innovative, will be applied with special reference to mapping, monitoring and modelling coastal instability phenomena. For hazard assessment, research will take into account different scenarios of global change with sea level rise.

Results obtained in 2011:

The research project on “Coastline at risk: methods for multi-hazard assessment” has dealt with the study of slope instability in critical coastal areas of France, Portugal and Malta and has been completed in 2011.

The aims of the project have been pursued through multidisciplinary investigations which has foreseen geomorphological and engineering-geological approaches. Integrated avant-garde research techniques, both traditional and innovative, have been applied with special reference to mapping, monitoring and modelling of coastal instability phenomena. The final results make up a sound basis for coastal multi-hazard assessment that can be used to face and manage coastal hazards in the investigated regions.

The project has been co-funded by the Fondazione Cassa di Risparmio di Modena, by the French National Research Action (ANR, Project SISCA: Integrated Monitoring System of landslide crises (e.g. acceleration, fluidization of large muddy landslides) and, also by the FP7 project Safeland: Living with landslide risk in Europe.

In the frame of the project, a fruitful collaboration with the OPA Euro-Mediterranean Centre on Insular Coastal Dynamics (ICoD) has been established. Meetings between CERG members and the Director of ICoD took place in Normandy in June 2011 in occasion of the FORMOSE Post-graduate Training School and in November 2011 in Malta during a field campaign.

The research has provided a significant opportunity for scientific discussion based on the comparison of data regarding instability situations in the context of multi-hazards assessment. The latter were only slightly dealt with before this project with reference to the coasts of Malta, Normandy and Portugal, despite significant risk issues there present, as evidenced from a series of accidents/damages recorded after landslide events.

Investigations have been focused on coastal landslides in three different morpho-climatic European environments: Malta (Mediterranean coastline), Lower Normandy (Channel coastline) and Central Portugal (Atlantic coastline). These coastline are affected by extensive landslides of different type and size, locally favoured by coastal erosion, which induce hazard situations that urge to be investigated in order to prevent risk for population, buildings and infrastructures.

It is clear how the study of similar instability phenomena occurring in different morpho-climatic conditions will provide a significant opportunity for scientific discussion based on the analysis and comparison of data in the context of multi-hazards assessment. The following research phases are envisaged within the project:

- Retrospective analysis of landslide occurrence;
- Interpretation of multitemporal aerial photographs and satellite images;
- Analysis of predisposing and triggering factors;
- Geomorphological survey and mapping;
- Landslide monitoring;
- Multi-hazard assessment.

Integrated research methods and techniques have been applied with special reference to mapping and monitoring of coastal instability phenomena along the coastlines. The studied areas can actually be considered as natural laboratories for the study of landslide phenomena and their geomorphological hazard and risk implications.

In fact, the distinct geological conditions, especially the super-imposition of lithotypes having different mechanical behaviour and the marked jointing of the rock masses, determine the development of a series of landslides, sometimes closely associated each other, which determine the onset of exemplary complex landslides.

Landslide hazard assessment in the Island of Malta

The research has focused on coastal instability phenomena occurring on the north-western stretch of the Island of Malta where widespread active rock spreading and block sliding is occurring due to the presence of rock masses showing different litological and geomechanical characteristics. This geological situation, as well as the presence of a series of horst and grabens, plays a direct control upon the surface topography and landform evolution. At the edge of the limestone plateaux a series of landslides have been recognized, which are favoured by the rock spreading processes above mentioned. High-risk conditions and exemplar instability phenomena are present in particular at Il-Prajjet (Anchor Bay) and Ghajn Tuffieha Bay, where detailed investigation is in progress. The study area can actually be considered as a real natural laboratory for the study of landslide phenomena and their geomorphological hazard and risk implications.

During the third year of the project (2011), multidisciplinary investigations that foresee a geomorphological and an engineering geological approach have continued, finally providing the means for landslide hazard assessment, with special reference to two specific sites: Il-Prajjet (Anchor Bay) and Il-Qarraba (Ghajn Tuffieha Bay).

Integrated research methods and techniques have been applied with special reference to mapping and monitoring of coastal instability phenomena along the north-west coast of Malta.

After the completion during the first year of the project (2009) of the retrospective analysis of landslide occurrence within the research area during historic times, further research phases have been completed during the second year of research.

This is the case of the collection and analysis of climatic data which have been obtained from the Luqa meteorological station to determine the relationship between the identified landslide events and particular meteorological conditions. Data regarding the total annual amounts of rainfall for the period 1929-2006, the average monthly precipitation for the period 1922-2006 and the maximum monthly precipitation for the period 1922-2006 have been collected and analysed.

Figure 6 - Location of the study area and of the sites where landslide monitoring has been carried out. CERG : Association de droit local, inscrite au Tribunal d'Instance de Strasbourg SIRET : 537 730 020 00014 APE: 9499Z 14
The interpretation of multitemporal aerial photographs has also been completed with special attention given to landslide phenomena. The study of landforms represented in a sequence of images corresponding to different years,

enabled to reconstruct the evolution of the coastal stretch under study. Particular attention has been given to the first and last series of aerial photographs available (1957 and 2008).

Detailed geomorphological survey and mapping has been carried out and completed for the entire NW coastal region of the Island of Malta. This phase has finally lead to the production of a detailed geomorphological map, which has been accepted for publication by the international Journal of Maps, together with the related explanatory notes. Within this phase the influence of karst processes on cliff instability processes has been investigated.

Landslide monitoring has been continued during 2011, by means of differential GPS and extensometer measurements, along the north-west coastline of Malta, at Il-Prajjet (Anchor Bay) and Il-Qarraba (Għajn Tuffieħa Bay). Monitoring techniques included GPS surveys, thanks to 2 reference stations and more than 20 benchmarks spread all over the unstable areas and wire extensometers which have shown that rock spreading phenomena are active with local displacements up to a few centimetres per year. In order to guarantee the repetitiveness of the surveys, this project is meant to continue the GPS measurements. Moreover, this has been accompanied by the installation of wire extensometers to monitor in continuous the displacements along the most active fractures. Additional benchmarks have been placed along the selected fractures and the first measures have been made manually by means of a wire extensometer.

Figure 7 - Displacements measured by means of GPS at Il-Prajjet (Anchor Bay).

During the last year of the project (2011), the research has been also focused on landslide hazard assessment defining the role played by different factors on coastal cliff instability, such as: i) presence of rocks with different mechanical behaviour; ii) presence of tectonic discontinuities; iii) coastal erosion due to sea action; iv) influence of karst processes.

The investigation has shown that geological factors play an important role in terms of predisposing factors. It has also become clear that a good knowledge of karst processes and landforms is fundamental for the assessment of hazards related to rock spreading and block sliding, since they may control the percolation of water through the limestone units which may eventually reach the clayey terrains.

On the other hand, the role played by coastal erosion has appeared to be of minor importance, since the cliffs are generally protected by rock boulders accumulated at the foot of the slopes due to gravitational processes. The areas of Il-Prajjet and Il-Qarraba have been estimated as highly hazardous due to the possibility of occurrence of rock falls and topples which may be induced or favoured by the slow movements (rock spreading and block sliding) affecting the edges of the coralline limestone plateaus and the rocky coastal cliffs.

The issue of multi-hazard assessment has also been considered in terms of domino effects that different types of hazard can show. In particular, the mutual relationships of the following hazards have been considered: landslide hazard; seismic hazard; karst hazard; coastal erosion.

The research team has also tried to identify strategies to involve and sensitize technical and administrative staff from public institutions responsible for the protection of the environment (Malta Resources Authority), as well as academic staff (University of Malta), towards aspects of landslide hazard and risk. For this purpose a series of meetings have been organized in Malta with stakeholders and relevant scientists working on the topic.

Dissemination of project results:

The research carried out in Malta has been specifically presented during the following scientific events (conferences and meeting) held in 2011:

- IAG Regional Conference on Geomorphology (Addis Ababa, Ethiopia, 18-22 February 2012)
- European Geosciences Union General Assembly 2011 (Vienna, 3-8 April 2011)
- FORMOSE Post-graduate Training School on Coastal hazard assessment and risk management (Caen, France, 19-25 June 2011)
- The Second World Landslide Forum (Rome, 3-9 October 2011)
- Meeting with the Director of ICoD (Gozo, Malta, 12 November)
- Meeting with the Italian Ambassador in Malta (Italian Embassy, Malta, 17 November 2011)
- Meeting at Malta Resources Authority (Marsa, Malta, 17 November 2011)

BRUSCHI V.M., CORATZA P., PIACENTINI D., SALIBA D. & SOLDATI M. (2011) - *Valutazione dei geomorfositi del Majjistral Nature and Historic Park (Malta): due metodologie a confronto*. Geologia dell'Ambiente, 2/2011 (suppl.), 163-174.

CORATZA P., BRUSCHI V.M., PIACENTINI D., SALIBA D. & SOLDATI M. (2011) - *Recognition and Assessment of Geomorphosites in Malta at the Il-Majjistral Nature and History Park*. Geoheritage, 3, 175-185.

DEVOTO S., BIOLCHI S., BRUSCHI V.M., FURLANI S., MANTOVANI M., PIACENTINI D., PASUTO A. & SOLDATI M. (in press) - *Geomorphological map of the NW Coast of the Island of Malta (Mediterranean Sea)*. Journal of Maps.

DEVOTO S., BIOLCHI S., BRUSCHI V.M., GONZÁLEZ DÍEZ A., MANTOVANI M., PASUTO A., PIACENTINI D., SCHEMBRI J.A. & SOLDATI M. (in press) - *Landslides along the north-west coast of the Island of Malta*. Proceedings of the Second World Landslide Forum – 3-9 October 2011, Rome.

DEVOTO S., FORTE E., MANTOVANI M., MOCNICK A., PASUTO A., PIACENTINI D. & SOLDATI M. (in press) - *Integrated monitoring of lateral spreading phenomena along the north-west coast of the Island of Malta*. Proceedings of the Second World Landslide Forum – 3-9 October 2011, Rome.

SOLDATI M., MAQUAIRE O., ZEZEZE J.L., PIACENTINI D. & LISSAK C. (in press) - *Coastline at Risk: Methods for Multi-Hazard Assessment*. Journal of Coastal Research.

Implementation of EC8-Part 3 for Seismic Assessment and Retrofitting of Existing Buildings. ([ECPFE](#), [ATHENS](#))

- a) A Working Group nominated by *E.C.P.F.E.* in collaboration with EPPO produced a non-contradictory complementary document in Greek and in English elaborated specific objects and facilitated the implantation of EC8-Part 3, titled: “Code of Interventions (KAN. EPE), final harmonized Text. The Document includes the following”:
 - 1. Preamble
 - 2. Symbols
 - 3. Chapter 1, scope, field of application, obligations and responsibilities,
 - 4. Chapter 2, basic Principles, criteria and procedures
 - 5. Chapter 3, investigation and Documentation of an existing Structure
 - 6. Chapter 4, basic data for assessment and redesign
 - 7. Chapter 5, analysis prior and after the intervention
- b) In the addition in February 23, 2012 a workshop will take place in Athens, in order to disseminate to above work. In this workshop, distinguished Scientists from other European Centers will deliver relevant presentations.

2.C. IMPACT OF CLIMATE CHANGE AND ENVIRONMENT ISSUES

Coastal Risk Co-Operation between Malta and Turkey for the Development of Risk and Vulnerability Maps for Selected Coastlines with regard to Sea Level Rise and Tsunamis, (ICOD, LA VALLETTA)

Collaborating institutions:

- Euro-Mediterranean Centre on Insular Coastal Dynamics (ICoD), IES.
- Ocean Engineering Research Centre, Civil Engineering Department, Middle East Technical University (METU), Ankara, Turkey.

Overall programme

1-Sea level rise (in context of global warming)

The effect of sea level rise on coastal areas will be evaluated by considering both physical and human impact parameters. A mathematical model "Coastal Vulnerability Assessment Model to Sea Level Rise" will be used in the project to obtain the risk and vulnerability of coastal areas in two stages:

- a) Development of risk and vulnerability maps at selected sites (priority will be given to low lying coastal areas) in Turkey and Malta
- b) Public surveys to develop 'human effect' parameters in Turkey, Malta. In stages (a), GIS will be used as the tool to develop the Risk & Vulnerability maps.

2-Tsunamis

- a) Past tsunamis in the Mediterranean Sea Basin will be reviewed as historical events together with the currently on-going EU projects on Tsunami.
- b) Probable tsunami scenarios effective in Mediterranean Sea Basin (at selected location sources and with a certain occurrence probability and earthquake characteristics) will be reviewed.
- c) Tsunami propagation and its directivity according to different sources will be investigated.
- d) Coastal amplification and tsunami effects (i.e. tsunami amplitude, flow depth, inundation distance and possible damage levels) will be studied at selected sites (in Turkey and Malta).
- e) Tsunami risk maps will be prepared for the studied coastal areas using GIS for preparation of these maps)

Project duration: 2010 - 2012

Summary Year 1 report (2010)

Following initial online discussion between the two collaborating institutions (the EUR-OPA Major Hazards Agreement 'Euro-Mediterranean Centre on Insular Coastal Dynamics (ICoD)' and the Turkish Middle East Technical University's 'Ocean Engineering Research Centre', Civil Engineering Department, (METU), Ankara), Phase1 of this project was launched with the selection of study areas in Malta and Turkey - shorelines identified as susceptible to potential hazardous impact of tsunamis and sea level rise.

A description of the distribution of coastal and marine structures and their characteristics on such shorelines was carried out together with the collection of nearshore bathymetric and topographic data and relevant wind, wave and sea level data.

Public surveys to identify human effect parameters were carried out in both countries using a purposely designed questionnaire and all data was processed in a database developed for subsequent use in Phase 2 of the project by computational tools (*Coastal Vulnerability Assessment Model to Sea Level Rise and the NAMI DANCE Tsunami Model*).

Summary Year 2 report (2011)

- Development of regional / local scenarios (e.g. forecasted climate change impact on Sea Level Rise and possible tsunami events, downscaling from global to regional to local scenarios);

- Correlation of Mediterranean regional history of tsunamis to local vulnerability;
- Wind and wave climate studies for selected sites;
- Wave transformation studies;
- Tsunami simulations and computations of the nearshore tsunami parameters at selected sites;
- Development of database for the vulnerability risk maps.

Workshop Coastal Ecosystems Vulnerability to Global Change And Extreme Events : At the Crossroads of Knowledge to the Benefit of Coastal and Marine Ecosystem Services. (CERCO, BIARRITZ)

INTRODUCTION

Le Centre de la Mer de Biarritz s'est associé avec L'Institut Français de Recherche pour l'Exploitation de la Mer (IFREMER) et le Centre National de Recherche Scientifique (CNRS) pour organiser un colloque scientifique qui s'est déroulé du 18 au 21 octobre 2011 à Biarritz.

Ce colloque scientifique de portée internationale sur la thématique des risques côtiers a été intitulé : « Vulnérabilité des écosystèmes côtiers au changement global et aux événements extrêmes ». Les partenaires institutionnels de soutien financier sont : Le Conseil de l'Europe via l'Accord partiel ouvert EUR-OPA, le Conseil Régional d'Aquitaine, la mairie de Biarritz, l'Agglomération Cote Basque Adour (ACBA) et le conseil général des Pyrénées Atlantique. En parallèle de ce colloque s'est déroulé un salon professionnel pour faire le pont entre la connaissance scientifique, technologique et leurs applications ainsi qu'un forum interprofessionnel recherche et développement "Gestion de l'environnement marin et côtier pour les régions littorales - Besoins et outils pour les politiques publiques". Ce forum a réuni pendant 3 jours les principaux acteurs impliqués dans l'observation, la gestion et la restauration des espaces maritimes, dont les pôles de compétitivité.

Cet ensemble colloque/forum a donc fait le lien entre les approches thématiques permettant de bien comprendre la nature des principaux processus géologique, physiques, chimiques et biologiques qui interviennent sur la modification de la structure et de la fonctionnalité des écosystèmes côtiers, à une approche croisée, pluridisciplinaire, permettant de combiner les connaissances scientifiques, mais également l'ensemble des savoirs pour mieux appréhender les dynamiques des interactions entre facteurs physico-chimique, biologique, et socio-économique.

COLLOQUE

Le colloque a eu pour but de faire le lien entre les diverses thématiques et disciplines pour mieux comprendre la nature des principaux processus qui interviennent sur toutes modifications subies par les écosystèmes côtiers. Il a ainsi pu apporter à travers les présentations rassemblées, des éléments de réponses aux questions scientifiques majeures dont découlent d'importants choix de société :

FORUM

Adossé au colloque et en parallèle d'un salon professionnel de l'innovation sur la thématique de l'océan et de la problématique des risques côtiers, s'est tenu un forum interprofessionnel de recherche et développement intitulé "Gestion de l'environnement marin et côtier pour les régions littorales - Besoins et outils pour les politiques publiques". Ce forum, s'est tenu du mercredi 19 au vendredi 21 octobre 2011 et a réuni les principaux acteurs impliqués dans l'observation, la gestion et la restauration des espaces maritimes, dont les pôles de compétitivité. Les présentations des différentes collectivités impliquées ainsi que la mise en œuvre des projets communs a pu être présentée de manière à favoriser les échanges entre fournisseurs et utilisateurs publics et privés de solutions innovantes issues non seulement de la recherche, mais aussi des expériences et développement des acteurs impliqués dans la gestion et l'aménagement de ces espaces côtiers.

Les interventions ont été regroupées en cinq thématiques :

- Impact de la pression anthropique sur le littoral et atténuation des effets
- Planification spatiale et outils de gestion intégrée
- Océanographie opérationnelle du large à la côte
- Les pôles de compétitivité, leurs actions et leur fonction
- Concilier valorisation des ressources marines et préservation de l'environnement

De plus, dans le cadre du colloque, une journée spéciale dédiée au programme Mercator Océan a permis de faire le point entre les utilisateurs/acteurs de ce programme.

LES COMITES

- Le comité de parrainage

Le comité de parrainage a été placé sous la présidence du Pôle Biarritz Océan par l'intermédiaire du Centre Européen des Risques Côtier. Il a eu pour charge d'assurer le lien entre l'ensemble des partenaires qui se sont associés à l'événement et qui ont apporté un soutien politique, institutionnel, scientifique, technique et/ou financier.

Il a eu pour responsabilité de promouvoir l'ensemble des manifestations proposées dans le cadre du Salon et Colloque: Colloque, forum et salon OCEANOVATION en liaison avec les partenaires impliqués. Il a eu la responsabilité organisationnelle (en liaison avec Biarritz Tourisme et MLGEVENTS) de l'ensemble de la manifestation. Les organismes représentés dans le comité de parrainage sont : Biarritz Pôle Océan, L'IFREMER, Le CNRS, Le Muséum National d'Histoire Naturelle, l'Université de Pau et de Pays de l'Adour, l'Université de Bordeaux I, L'Institut de Recherche pour le Développement, le CEMAGREF/IRSTEA, le Service Hydrographique et Océanographique de la Marine Nationale, le World Ocean Council, l'organisation WWF France, Le Conseil Régional d'Aquitaine, le Conseil Général des Pyrénées Atlantiques et la Mairie de Biarritz

- **Le comité scientifique**

Le comité scientifique a été placé sous la présidence du CNRS et a eu pour charge d'assurer la crédibilité scientifique et technique du colloque et d'en évaluer, en liaison avec un comité de lecture, la pertinence des communications et affiches présentées. Le site du colloque a été géré par l'IFREMER en liaison avec les responsables des trois comités (parrainage, scientifique et pilotage). Les organismes représentés dans le comité scientifique sont : L'IFREMER, Le CNRS, Le Muséum National d'Histoire Naturelle, l'Université de Pau et de Pays de l'Adour, l'Université de Bordeaux I, L'Université de Rhode Island, l'Université de Braunschweig, l'Université de Lisbonne, L'université de Miami, Le Commissariat à l'Énergie Atomique, Le Centre d'Études Techniques Maritimes et Fluviales et l'Institut de Recherche pour le Développement.

- **Le comité de pilotage**

Le comité de pilotage a été placé sous la présidence de l'IFREMER et a été chargé d'assurer la cohérence scientifique et technique entre le Salon OCEANOVATION et le Colloque. En particulier, il a eu pour responsabilité la définition de la composition du forum en liaison avec les pôles de compétitivité venus présenter l'état des programmes d'étude en application directes avec la gestion et l'aménagement des espaces côtiers. Les organismes représentés par le comité de pilotage sont : Le Centre Européen des Risques Côtier, le Centre de la Mer de Biarritz, Biarritz Pôle Océan, L'Université de Pau et des Pays de l'Adour, Le Centre Technique du Littoral Lyonnaise des Eaux, l'IFREMER et le CNRS.

PARTICIPANTS

Plus de 400 personnes représentant plus d'une quinzaine de pays différents ont pu participer à l'événement dont 200 pour le colloque. Plus de 60 communications orales présentées en séance plénière du colloque ont permis de faire un point sur les connaissances scientifiques concernant l'observation, l'évolution et les capacités d'adaptation des écosystèmes côtiers aux impacts du changement climatique et des actions humaines. A ces communications se sont rajouté une cinquantaine de présentations dans le forum qui ont permis de partager les expériences de développement des acteurs impliqués dans la gestion et l'aménagement des espaces côtiers. A cela s'ajoute plus d'une centaine de posters affichés dans le salon d'exposition et présentés par leur auteurs lors des pauses café. En tout ce sera donc plus de 200 communications qui ont été présentées durant l'événement.

Il est aussi important de préciser la participation importante d'étudiants de différentes filières venus approfondir leur formation sur les sujets brûlants de l'actualité en terme de gestion et mitigation des risques.

PROGRAMME

Les conférences d'introduction ont été assurées par Christophe Cassou du Centre Européen de Recherche et de Formation Avancée en Calcul Scientifique (CERFACS), Patrick Monfray de l'Agence Nationale de la Recherche (ANR) et Michalis Skourtos de l'Université de la Mer Egée (University of Aegean).

PRESENTATION

Les présentations ont été limitées à 10 minutes, les questions étant reportées à la fin de chaque sous session soit après environ 4 présentations. Les affiches ont, quant à elles, été toutes brièvement présentées par leur auteurs à l'aide d'une diapositive pendant les sessions où elles étaient incluses. Ce format de présentation pour les affiches a particulièrement été apprécié par les participants pour avoir pu donner un rapide aperçu du type d'étude et de pouvoir identifier facilement l'auteur de l'affiche au moment de sa brève présentation. Ceci facilitant les échanges en dehors de la salle plénière. Les présentations ont ensuite été organisées en 4 sessions principales et 12 sous sessions:

1. Comprendre le fonctionnement de l'écosystème et des principaux processus de régulation
 - Processus hydrodynamiques, événements extrêmes et changements climatiques
 - Habitats et processus sédimentologiques
 - Écosystèmes et processus biologiques
2. Évaluation de la réponse du système

- Réponse aux changements climatiques récents
- Risque d'érosion naturelle
- 3. Outils et stratégies de gestion
 - Changements climatique et événements extrêmes
 - Impact anthropique et restauration
 - Caractérisation des ressources et des habitats
- 4. Gestion intégrée de la zone côtière et de l'Océan
 - Gestion et protections des aires marines et des ressources marines
 - Gestion des sédiments et risque d'érosion
 - Vulnérabilité, adaptation et gestion des zones côtières
 - Gestion intégrée des zones côtières

COMMENTAIRES ET PROPOSITIONS

A/ Sur le plan scientifique et technique :

1. Une disposition semble-t-il originale a été spécialement remarquée par un bon nombre de participants. Elle concerne la possibilité offerte à de jeunes chercheurs de faire état des résultats de leur premier travail, de manière à faire connaître au public le degré d'intérêt que l'on affecte aux éventuelles découvertes. Ces jeunes chercheurs ont ainsi eu la possibilité de montrer des éléments d'appréciation susceptibles d'ouvrir de nouvelles orientations auxquelles des spécialistes plus chevronnés peuvent apporter leur concours. Cette expérience consistant à inviter des chercheurs non encore confirmés à venir présenter les résultats même fragmentaires de leur recherche semble être une excellente initiative à développer à l'occasion de la tenue d'autres colloques.
2. Il est également apparu au cours du déroulement des séances qu'il est toujours d'actualité de développer toutes démarches de type pluridisciplinaires pour analyser les matériaux ou interpréter les mesures une fois que l'on étudie des milieux complexes. L'océan est un exemple parfait de ce genre d'environnement conditionné par de nombreux paramètres aux interactions encore mal connues et susceptibles de modifications.
3. Pour se faire, il y a lieu de favoriser l'extension des réseaux de coopération scientifique et techniques aux actions encore mal connues qui sont le meilleur vecteur d'échanges potentiels et dont il est facile pour certains de mesurer la qualité des résultats obtenus par les équipes de recherche.

Les réseaux, non seulement permettent le développement de relations entre les équipes éventuellement éloignées géographiquement, mais aussi favorise l'intégration de chercheurs isolés. Ils constituent également un excellent support d'innovation incitant à la réalisation de bilans de connaissances dont le manque actuel est une source d'informations irrémédiablement perdues.

B/ A l'échelon de l'information générale, il est à nouveau apparu que le rôle de la médiation scientifique est devenue primordiale, pour répondre à un besoin général d'informations de la part du public. Comprendre que la recherche n'est plus inaccessible, la nécessité de disposer de nouvelles liaisons avec un monde auparavant jugé lointain apparaît de plus en plus indispensables. A l'occasion de rencontres comme celle de Biarritz, le monde de la recherche apparaît beaucoup plus accessible et rassurant face à un catastrophisme ambiant.

C/ Un autre aspect méritant d'être souligné se situe au niveau géopolitique. En effet le caractère international des interventions, quelque soit leur provenance et leur sujet, a montré que les sciences et techniques polarisées sur une compréhension de plus en plus fine des processus côtiers, recherchaient des références sur les zones littorales françaises. La position géographique de notre pays, riche de plusieurs façades maritimes, reste unique en Europe. Il paraît nécessaire de trouver les dispositions utiles pour multiplier les échanges en favorisant la création d'équipes européennes dont Biarritz pourrait être le point focal.

BILAN ET PERSPECTIVES

L'événement qui a réuni plus de 400 personnes impliquées dans les problématiques de gestion, aménagement, recherche et développement des domaines côtiers a posé les jalons d'un événement qui a toute légitimité à être reconduit à plus ou moins courte échéance. La table ronde finale a été animée par un représentant de l'Agence Nationale pour la Recherche (ANR), Maurice Heral, Michel Porcher, de Sea and Coast Consultancy (S2C), Serge Larzabal du Comité local de Pêches, Paul Holthus du World Ocean Council, Philippe Bertrand (CNRS), Patrick Prouzet (IFREMER) sous la présidence de Louis Legendre (CNRS). Les conclusions de la table ronde finale expriment clairement le besoin d'une forte concertation entre les différentes disciplines scientifiques ou non (recherche, innovation, gestion et aménagement) dans le but de développer une approche plus systémique qui permettrait de mieux appréhender les problèmes sur de longues échéances.

Au regard des attentes des différents participants, le renouvellement de ce type de manifestation sur une périodicité à définir permettra de réunir, scientifiques, collectivités et centres d'applications dans le but d'échanger sur l'avancée

des projets. L'année intermédiaire, sera l'occasion de proposer des formations d'applications techniques et d'approfondissement des connaissances pour les étudiants en fin de cycles et les agents des collectivités confrontés à la réalité de la gestion des risques côtiers. Ces formations, en appui avec les universités de Pau et de Bordeaux, seront mises en place au sein du Centre Européen des Risques Côtiers.

The Arctic as a “Weather Backroom” on a planet scale: New Global Challenges as a result of increased development of the Arctic Territory. (ECNTRM, MOSCOW)

The Arctic is an area of potential large-scale economic activities of production, processing and transportation of mineral raw materials conducted in a sensitive environment. Considerable risks of emergencies exist due to the natural and technical character of these activities.

The Arctic is a vital area, whose global character is determined by:

- availability of sources of vital mineral and biological raw materials,
- potential of large economic developments,
- considerable reserves of pristine natural areas,
- its being a climate influencing region - the “weather backroom” on a planet scale,
- its rendering a significant amount of “ecoservices” aimed at assimilating negative anthropogenic impact.

At the same time, the Arctic environment is extremely vulnerable as biological processes there are slow and its assimilation capacity is limited and can be rapidly exhausted.

The combination of these factors brings the issues of safe use of territories and offshore Arctic areas into the sphere of international interests thus creating a crucial arena for international cooperation. Taking into consideration international obligations of the countries in the circumpolar region, safety of economic activities in the Arctic is the most important condition for realizing national economic interests and ensuring global economic growth on the basis of provision of critically important primary resources.

In the northern high-latitude circumpolar regions significant projects in oil and gas production, hydrocarbon materials transportation, electric power engineering, etc. are implementing or planning.

The related threats to the territories, water areas, living environment of the population, life support systems, and transport and social infrastructure facilities are the major risk factors for sustainable development. It is, therefore, important to ensure industrial, technological and environmental safety in the Arctic region.

Ensuring a required level of environmental protection and living conditions, prevention of environmental disasters and technogenic catastrophes, and prevention of and efficient response to emergencies in the Arctic region are significant tasks in the context of implementation of any economic development project.

This challenge is of a comprehensive character. Meeting it requires a reasonable strategy and coordination of activities by member states, governmental authorities, and it implies close ties among the state and business within the framework of public/private partnership, active cooperation with all the parties concerned on an international scale.

The main goals are:

1. Elaboration of recommendations and key elements of the emergency risks assessment system and the system for improving safety of potentially hazardous facilities.
2. Elaboration of recommendations for establishing regional centers with international participation accumulating monitoring information and managing rapid reaction forces in strategically important spheres, which will allow implementation of efficient emergency response activities.
3. Consideration of the possibility of establishment of an integrated monitoring, prevention and prompt response system in the Arctic.

Objectives include, but are not limited to:

- International promotion of advanced national experience aimed at establishing a favorable competitive environment for economic activities; ensuring efficient strategies of land use, natural resources planning and management; industrial and environmental safety.

- Elaboration of recommendations on possible joint activities with a view to enhance industrial and environmental safety in the regions of major northern transportation corridors.

In order to assist states to improve safety of potentially hazardous facilities, as well as to promote economic and infrastructural development initiatives in high-latitude circumpolar regions within the project framework it is necessary to:

1. Take an integrated approach to emergency prevention;
2. Define minimally acceptable risks of accidents, disasters and emergencies;
3. Establish an early warning and mutual information system in regards to potential threats and emergency risks (introduction of new technologies into early warning systems related to emergency risks, such as possible industrial and technogenic accidents);
4. Coordinate joint efforts; improve preparedness for efficient and prompt response in emergencies;
5. Ensure regular and prompt information sharing;
6. Establish a venue for efficient advance experience exchange and promotion in decreasing emergency, technogenic risks on the basis of international centers.

The Arctic, not to mention the planet in general, has been warming for three hundred years. However, over the last fifty years it has been most likely related to human activities. The pace of warming is twice as fast in the Arctic as in other parts of the world, particularly because most of its territory is covered with ice.

The ice cap is shrinking and it means that the surface light-reflecting power is diminishing too, as the ice turns into water, freeing the dark rocks underneath it. As a consequence, an increasing portion of sunlight is accumulated on the Earth, instead of being reflected into space, making the surface warmer and warmer.

Sea ice and permafrost in the Arctic region recede at the rate of 1% annually. In the foreseeable future, ice melting is unlikely to cause worldwide industrial disasters; however, it will be influencing climate conditions on the planet.

Main Issues Related to Climate Change in the Arctic

№	Issue	Scientific View
1	Global warming	0.6-0.8 °C over the last 50 years, with 1.3-1.5°C in the Arctic
2	Arctic ice shrinking	Since 1978, the Arctic ice has shrunk, on average, by 2.7%, every 10 years (8% total)
3	Average temperature of the top layer of the permafrost	Increased by 3 °C since 1980
4	Maximum area covered by seasonally-frozen ground	Decreased in the Northern hemisphere by 7%, compared to 1950s
5	Reason of warming	Global warming is likely to have been brought about by the increased volume of greenhouse gases
6	Further average climate warming	Up to 0,2°C each 10 years
7	Maximum temperature increase – sea level rise by 2099	6,4 °C – 0,59 meters
8	Temperature increase in the Arctic latitudes (prognosis through 2039)	1-2 °C
9	Maximum temperature increase in the Arctic latitudes (prognosis through 2099)	5-7,5 °C
10	Arctic ice melting	Gradual melting (especially during summers, possible total ice melting in summer by 2099)

Cours de Master-Doctorat organisé du 3 au 7 octobre 2011

Rapport rédigé par **R.-A. Lefèvre**, Professeur émérite à l'Université Paris Est Créteil (UPEC), co-directeur du cours avec **C. Sabbioni**, Directrice de Recherche au CNR de Bologne.

Le cours organisé en octobre 2011 était le 19^{ème} d'une longue série initiée en 1993 au CUEBC et intitulée « *Sciences et Matériaux du Patrimoine Culturel* ». Il faisait suite à trois autres cours (2007, 2009, 2010) exposant eux-aussi les problèmes posés au patrimoine culturel par le changement climatique et global actuellement observé. Sur cette même problématique, un Colloque international avait été organisé à Ravello en 2009. Les étudiants ont bénéficié de la parution en octobre 2010 du volume intitulé « *Climate Change and Cultural Heritage* » (201 p., Edipuglia, édit.), rassemblant les Actes du Colloque de 2009 et les textes des Cours de 2007 et 2009.

Le cours d'octobre 2011 a réuni 24 étudiants de 8 pays : *Italie (14), Panama (1), Arménie (2), Royaume-Uni (2), Roumanie (1), Russie (1), Chine (1) et Grèce (2)* et 13 professeurs de 4 pays : *Italie (4), France (3), Royaume-Uni (5) et Chine (1)*, les meilleurs spécialistes de cette problématique. Le Conseil de l'Europe a attribué des bourses aux étudiants sur leur demande appuyée par un dossier.

Le programme du cours a fait appel aux chercheurs et aux résultats du projet de recherche « Noah's Ark » financé par la Commission Européenne, auxquels se sont joints des spécialistes de la climatologie passée, actuelle et future, intérieure et extérieure, de l'impact du tourisme et de la gestion des sites et chantiers culturels.

Deux demies journées ont été consacrées à des travaux dirigés ayant donné lieu à des présentations orales par les étudiants, la première concernant les effets prévisibles du changement climatique sur 4 villes mythiques, la seconde les valeurs culturelles attribuées à des objets eux aussi susceptibles de subir les conséquences de ce changement de climat.

Le secrétariat du CUEBC a assuré, comme à l'accoutumée, l'organisation matérielle et le bon déroulement de ce cours, ainsi que la fourniture à chacun des participants d'un CD contenant les présentations faites par les professeurs.

Il se confirme que l'attribution de bourses par le Conseil de l'Europe, jointe à la contribution financière du CUEBC, a été pour beaucoup dans le succès rencontré par ce cours auprès de jeunes étudiants de nationalités très diverses.

The greenhouse effect (global warming) is one of the main hazards facing the whole planet. The climate forcing is due to rising concentration of greenhouse gases (CO₂, methane, water vapor): according to different assessments, the temperature will rise by 1.4-5.8°C at the end of 21-th century. This can cause a lot of devastating effects and many of them will be impossible to prevent, which means that the humankind should find some way to adapt itself to global warming.

Conclusions

- There are many gaps in the climate change studies in Georgia, which call for action.
- Palaeo-biological investigations show that there were periods of very warm climate in Georgia (X-XI and XII-XIV centuries) before starting of strong anthropogenic impact.
- For quantitative reconstruction of the past climate the borehole geothermy should be applied.
- The existing instrumental temperature data are from 1850 in Tbilisi and from 1880 in 12 meteorological stations in Georgia. These data were used in analysis of trends and for climate forecast. The detail digital data bases covering the whole observation period (1850-2010) are absent.
- New calculations of the climate regime in Georgia confirm earlier results on the difference in the climate patterns in the Western and Eastern parts of the country. The statistical calculations of temperatures for 2055 on the base of data for 1950-2006 period show that the maximal (local) increment of the average annual temperature is of the order of 0.7°C (settlement Pasanauri, East Georgia), when in the West Georgia the increment is close to zero or negative. This is less than global assessments for the land. It should be noted that the 99% confidence region for increment of the annual temperature in Georgia spans from approximately +2°C to -2°C.
- Common statistical analysis indicates to weak auto-correlation and at the same time reveals several periodicities both in original and detrended time series.
- Extrapolation of the observed temperature trends by statistical methods predict mainly continuation of warming in the East Georgia and cooling or negligible change in the West with predominant warming in the cool periods.
- Our nonlinear analysis, namely Detrended Fluctuation Analysis (DFA) shows that time series exhibit several time scales with different dynamical characteristics. The long-range correlation features of air temperature fluctuations in Tbilisi and Kutaisi are different. According to another method - Recurrence Quantitative Analysis (RQA) temperature time series are more ordered in the East compared to West Georgia. These differences in the degree of regularity are definitely of local origin.
- The ordering strength of temperature time series vary in time revealing existence of low-dimensional processes close enough to multi-scale quasi-periodicity: the physical mechanism of such time-dependence is unknown. We suppose that besides local peculiarities leading to different levels of ordering in the West and East Georgia there are some global factors leading to similar type of time-dependent dynamics in the both parts of country.
- For time scales larger than one year process always looks as strongly antipersistent, i.e. at this time scales stability of observed trends is questionable and inversion of observed trends is a typical feature of dynamical process
- Using nonlinear methods small increase of temperature can be predicted in both parts of Georgia for the next 10 years and this process is not affected by different noises contained in existing data sets.
- For reliable climate change prediction detail regional model should be developed.

Activities of GHHD in international projects related to EUR-OPA Major Disasters Agreement.

In 2011 the staff of the centre participated in following international projects:

- Seismic hazard and risk assessment for Southern Caucasus-Eastern Turkey energy corridor. NATO – SFP 983038
- EMME - Earthquake Model of the Middle East Region: Hazard, Risk Assessment, Economics & Mitigation

3.A. POLICY STUDIES

Mutual Activities of Local Executive Power and Municipalities in the preparation of People, Economy and Environment for the Protection within the Hyogo Program of Communities ([ECMHT, BAKU](#))

An international scientific-practical conference was held according to the appropriate plan of EUR-OPA for 2011-2015 years and organized by ECMHT- European Information-Training Center in Baku on "Risk management of emergency situations" on 13-14 June, 2011 with the participation of the Ministry of Emergency Situations of Azerbaijan Republic, the Ministry of Ecology and Natural Resources of the Azerbaijan Republic, the Seismic Service Centre of the National Academy of Sciences of Azerbaijan, the Melioration and Water Economy Open Joint Stock Company, the Azerbaijan University of Architecture and Construction, the Azerbaijan National Aviation Academy, Baku State University, Azerbaijan Technical University, Baku representatives of UNICEF and OXFAM, international humanitarian organizations and participants of non-government organization of "FOVGAL" Association.

The conference was attended by representatives of the local authorities of the municipalities, well-known scientists, specialists, experts of the country in the sphere of life activity safe and emergency situations.

Plenary and divisional meetings of the two-days conference were attended by 100 persons and 34 lectures were delivered:

Main lectures:

"About fulfillment of the Hyogo obligations", Prof. G.Mammadova, doctor of architecture sciences

"Rules of risk management", Prof. H.Ojagov

"Organization perspectives of managing foundation of the building risks of the Azerbaijan Republic", F. Habibov, assistant professor

"The methods of the risk estimation of the emergency situation", Q. Hajimedov, assistant professor

"Role of municipalities and communities in preparation of the population to the protection and in risk reduction on emergency situations", T.Qafarov, expert on Civil Defence

Plenary reports:

"Development program of regions serves for reducing the risk", Prof. G.H.Mammadova

"Role of municipalities, Center and local executive powers in the preparation for the emergency situations in the territory of the Republic", Prof. H.O.Ojagov

"Preparation of communities and role of municipalities in the process of involving in the struggle against the emergency situations", M.I.Salimzada

"Geological and environmental global change and eliminating their harmful results", Prof. E.N.Khalilov

"Measure of noise pollution arisen in natural stone processing plants", Prof. Dr.Rashit Altındagh

"Analyze of principles and methods of ecological monitoring being available in the construction", Asso.Prof. F.H. Habibov

"Features of projecting the foundations in the areas under the danger of combinative karst and landslide", Prof. A.L. Gotman, Prof. N.Z. Gotman

"Role of municipalities in natural disasters", Prof. N.Babakhanov

"High frequency wave transmission in the Eastern Anatolia", Shakir Shahin

48 persons took part at the discussions of the reports on plenary and divisional meetings of the international scientific and practical conference. Appropriate recommendations and advices were proposed to improve the protection methods against emergency situations by extending its sphere of influence year by year and to ensure active participation of all sections of the society; of each family, each person. The conclusions were given to the Cabinet of Ministers for adopting measures taking them into account.

The reasons of extremely high losses during emergency situations and about role of human factors in this area were discussed. It was noted that the vast majority of the losses result from people who is settled down in dangerous areas, not respecting norms and rules of construction and not taking preventive measures against destructive force of the nature that is repeated from year to year. It has been pointed out that, during the 2010 floods, the most affected houses were built of airbrick. We know that usage of such material in such zones is forbidden and the necessity to strengthen the control against such situations was highlighted. In her lecture, Prof. G.Mammadova informed that Azeri scientists carry out wide researches and useful recommendations in this direction.

Safety problems of the natural, technogen and ecological risks, methods of the valuing of safety and disaster risks have not been enough learned, especially in the active seismic and complex relief territories.

In Azerbaijan, a national program has been prepared to reduce risk and consequences of emergency situations of natural and technogenic character. One of its most important conditions is defining national standards in architecture and construction, keeping safety demands according to technical regulations using most progressive international theories and experiments in the area of technical regulation and improving previous norms, rules and standards according to modern demands. Control of the project and stability of the building is regulated by legislation in different countries in the world and for this purpose professional associations with risk managers were established in banks and in co-operations to solve economy and financial problems for the implementation of the control. In the practice of the Azerbaijan Republic, construction business activities are based on the normative documents of the country and on common sense due to the insufficient serious theoretical directions in that domain. During the conference, the fulfillment of the obligations of Hyogo framework during the last 5 years has been explored. The main purpose of Hyogo Program is to strengthen resilience against natural disasters, to decrease damages in the socio-economic and environmental spheres, to ensure the protection of the life of people. Participants positively evaluated the implementation of Hyogo obligations, and especially the work done in the area of strengthening endurance of school and hospital buildings. Over that period, two thousand new schools, hundreds of hospitals, polyclinics and other health centers, sport complexes, etc. were constructed in Azerbaijan with support of the Heydar Aliyev's Fund and in accordance with the regional development program of the country. Participants also draw attention of all communities, municipalities and local authorities to increase resilience againsts natural disasters due to its danger for countries' development and people.

Recommendations of the international scientific-practical conference

As a result of global climate change occurring in the world, the scale of natural disasters thoroughly have expanded and sharply increased, reaching a critical situation in the last decade. That fact has not avoided Azerbaijan territory, located in the encirclement of the Greater and Lesser Caucasus range and considered to be one of the most difficult regions in the world according to the intensity of the natural disasters. In particular, stream, flood, hail, large-scale landslides cause greater destruction and large-scale losses to the country's economy. This problem has been comprehensively discussed in the conference.

Torrents, which happen more frequently in Azerbaijan with respect to other frequent natural disasters, took the first place in terms of destruction and damage. They inflicted damages to the country's economy for about USD 30-35 million and this figure is increasing constantly. At present people more than 1,5 million settled in Shaki, Zagatala, Balakan, Gabala, Oghuz, Ismayilli, Guba, Gusar, Goychay, Ordubad, etc. (and farms and infrastructure of these regions) are periodically subjected to torrent. Their formation and their happening is due to collection of corrosion materials and snow drift in the basins of river and river-beds and melting of this snowdrift as a result of intensive anomalous heats. One of the reason of being more active of streams is the summer pastures of the Lesser Caucasus of Azerbaijan territory have been under Armenian occupation and in these area cattle is grazed more than norm. In spite of the existing laws, a large number of individual residential houses, industrial and public goods are intensive appropriation works built in bring cones of very strong streamy rivers as Muxax, Kurmuk, Kish, Shin, Philphilly, etc. Therefore, fields of river become narrow, so the materials that bring streams become limited and rivers burst its banks and it causes serious disturbance and great losses: total area of the cones brought by the above-mentioned six rivers is 1268 km². Approximately 40% of the Balakan, Zagatala, Gakh, Sheki, Gabala, Oguz, Ismayilli regions located in the foothills of the Great Caucasus, with a total area of 750 thousand hectares, was subjected to erosion as a result of floods. If the protective measures against the stream are not be taken, all the bringing cones of the rivers in Azerbaijan and 100 -150 hectares of the fruitful land of the country would be useless for the next 30-50 years.

One of natural disasters which cause great tragedies is flood. In Azerbaijan floods take the second place for its scale and damage among natural disasters. Floods happen only in plains and cause extremely serious problems: recovery requires very much time and funds. The regions with plain area are considered the territories of flood potential. The floods frequently happen mainly within 500 km in the lower flow of Kur and Araz rivers in the Republic and usually the proper protective measures are taken and therefore it does not cause great destruction. But May-June 2010 floods were a shock for everybody as it was the strongest disaster happened in our country in the last 50 years. Siultaneous incessant heavy rains and fast increase of water level in Kur and Araz rivers caused the disaster: the rivers came out of their basin and began to destroy the joints. Even if it is very difficult to determine the amount of the funds spent for the destructions caused by these floods, their prevention and liquidation of their results, already 100 million state funds were spent for placing about 7500 affected families in tent cities, providing them with all

residential means, food and water, rendering medical and sanitary service and arranging new residential settlement for them. The restoration of the destruction due to floods in 2010 still continues. In the struggle against the floods private organizations and all businessmen in the territory and all technical opportunities were involved besides all people of the region. We win the disaster only by this way. It is the fact that our losses are great, only in our region 1150 houses, some social building, roads, bridges destructed and all infrastructure of the region was ruined, but we did not allow human losses, because all forces were involved to save people firstly.

The main purpose of bringing this topic up for discussion at the conference is to expose the efforts made during the struggle with torrent, to reveal mistakes and discrepancies, to systemize them and to make use of them in the future, to improve the received practices and to spread them. From this point of view another issue attracts attention to: to eliminate consequences of a big disaster in a short time and organized manner. In conference it was appreciated that there was no human loss as a result of properly organized and operative work.

The importance of periodical conduction of measures against hail seriously damaging country economy and local population in the mountainous and foothill regions was discussed at scientific and practical conference. It was noted that mountainous and foothill regions constituting more than a half of country's territory are potential hailing areas. And every year these regions are subject to natural disasters. The hail fell from May till June to Dashkasan, Gadabay, Goygol, Zaqatala, Shamakhi, Fuzuli and a number of other regions caused big damages. In some places there was even egg-size hail, in some other regions it reached 200-300 gram; the hail seriously damaged roofs of some houses, as well as cattle, sown area, electric and communication lines and so on. Special service areas, such as militarized groups operated in our country for the struggle with hailing. When there were icy clouds these groups dispersed the clouds with the help of canons and rockets. It is needed to recreate these militarized groups that were liquidated due to political events in the Soviet Union. It was said at the conference that in a number of countries in the struggle against hail the opportunities of insurance organizations are used. It was stressed that while there are no such organizations in our country it would be better to establish such organizations under the Ministry of Extraordinary Situations. Conference participants spoke about how to increase efficiency of struggle against natural disasters, and they offered to create "Scientific-Production Association" consist of departments, divisions and offices that work against natural disasters and try to liquidate the results of emergency situations.

According to the preparation plan for the conference, "Fovgal" Association was charged to become familiar with the organization of the struggle against the floods in the regions subjected to the natural disasters and situated in the territory where the biggest rivers the Kur and Araz joint and the organization of eliminating the results of the disaster and to inform the conference about the real situation. On October 16, 2011 some consultations were conducted with the participation of M.I. Salimzada, head of the Centre for affairs with municipalities of the Ministry of Justice of the Republic of Azerbaijan and heads of the city, settlement and village municipalities associations and with the participation of the heads of Shamakhi, Ismayilli, Salyan, Neftchala regions and Gobu village municipality and the opportunities for delivering conference materials to local municipality organization.

The discussion of the topic was conducted around three directions:

- I. The durability situation of the communities and facilities and necessary measures to be taken in this field.
- II. Human factor during the critical floods and losses –the settlement in the dangerous prohibited areas, defects and shortcomings made in the construction of buildings and units and construction norms and rules, etc. and the ways eliminating all of these facts.
- III. The role of governmental authorities, municipalities and insurance companies in the struggle against natural disasters and the process eliminating its results.

In the conference, the struggle against natural disasters happening in the world and directly in our country in connection with the global climate changes was considered. In this field the materials were provided in mass media, especially television. The result – positive experiment achieved in our country in the struggle against the reasons of stream, flood, landslides and happened in early spring of 2010 and continuing for some months, and against these large scale natural disasters and in the organization of eliminating the results of disasters - was highly appreciated. Furthermore, the shortcomings in the field of preparation for such emergency cases were elucidated; some useful advices, proposals and opinions were advanced on the protection methods based on the researches of our scientists and specialists as well as applied against the stream, flood and hail in our country formerly and provided perfect results and then forgotten due to some reasons.

In the reports of M. Guliyev, first deputy Chairman of Azerbaijan Melioration and Water Economy Open Joint Stock Company engaged in water economy problems of the country, and Neron Babakhanov, professor of Geography Chair

of Baku State University, the reasons of natural disasters continuing historically in the territory of Azerbaijan was interpreted in detail and it was stated that natural disasters as earthquake, flood, stream, hail, large-scale landslides, etc. covering large area, happened in Azerbaijan frequently, damaging the settlements, farms, infrastructure of the regions and generally country economy, become stronger year by year due to climate changes arisen in the world, increase its coverage and destructive effect and cause great destructions and tragedies. The torrent which more frequently happens in Azerbaijan in comparison with other frequent natural disasters took the first place for its destructions and damage. 154 of 8350 rivers in the territory of our country is observed torrent. 61 of them as well as Girdimanchay, Turyanchay, Aghsuchay, Dashaghilchay, Bumchay, Damiraparanchay, Shinchay, Kishchay, Goychay, etc. are particularly dangerous rivers. The torrents inflict damage to the country economy in the amount of USD 30-35 million and this figure is increasing constantly. At present people more than 1,5 million settled in Shaki, Zagatala, Balakan, Gabala, Oghuz, Ismayilli, Guba, Gusar, Goychay, Ordubad, etc. and farms and infrastructure of these regions are subjected to torrent periodically. The formation of torrents and their happening is due to collection of corrosion materials and snow drift in the basins of river and river-beds and melting of this snowdrift as a result of intensive anomalous heats.

It was stated that one of natural disasters which cause great tragedies in life of the countries and peoples is flood. In Azerbaijan floods take the second place for its scale and its damage after the torrents among the natural disasters. The floods happen in only plains and cause extremely serious complications. Liquidation of the results of the floods requires very much time and funds. The regions with plain area are considered the territories of flood potential. The floods frequently happen mainly in the distance of 500 km in the lower flow of Kur and Araz rivers in the Republic and usually the proper protective measures are taken and therefore it does not cause great destruction, but the floods in May-June, 2010 was a shock for everybody and it is the strongest disaster happened in our country in the last 50 years.

When M.Guliyev elucidated its reasons, he said that as a result of intensive rains beginning from October 2009 to the middle of May, 2010, great amount water was collected in the neighbour country where Kur and Araz rivers pass through and in the basins of these rivers. As a result, water storages on the same rivers in the neighbour countries and water storages on Araz, Arpachay, Aghstafachay, Choghazchay fully; the water level in Shamkir and Mingachevir reached to the critical level. Incessant heavy rains and fast increasing the water level in Kur and Araz rivers at the same time caused accident. The rivers came out of their basin and began to destroy the joints. It is very difficult to determine the amount of the funds spent for the destructions caused by these floods, their prevention and liquidation of their results. It is enough only one fact that 100 million state funds were spent for placing about 7500 families who lost their house, property and all their fortune as a result of floods in the tent cities without any losses, providing them with all residential means, food and water, rendering medical and sanitary service; liquidation of destruction results and arranging new residential settlement for the people subjected to floods and the infrastructure of the destructed territories as a result of the floods. The restoration of the destruction due to floods in 2010 still continues.

Aflan Aslanov, chief executive of Sabirabad region situated in the zone where Kur and Araz rivers cross and was subjected to the most damages due to floods of 2010, stated that the floods happened in Kur River is the common case for our people. We encounter with such floods periodically and we are always ready for it and know the protective measures well. But, the floods of the last year were extreme situation in the history of region for scale of its scale and destructions. This situation was not only in our region, it covered all regions located in the south flow of Kur: Sabirabad, Saatli, Imishli, Masalli, Lankaran, Salyan, Neftchala, Kurdamir, Hajigabul regions.

Melioration and Water Economy Open Joint Stock Company engaged in water economy problems of the country as well as Ministry of emergency Situations, Ministry of Internal Affairs, Ministry of Defence, Ministry of Health, Ministry of Education mobilized against such natural disaster (torrent, flood, landslide) under the guidance of the president of the Republic and each of them operated in their own field. In the struggle against the floods private organizations and all businessmen in the territory and all technical opportunities were involved besides all people of the region. We win the disaster only by this way. It is the fact that our losses are great, only in our region 1150 houses, some social building, roads, bridges destructed and all infrastructure of the region was ruined, but we did not allow human losses, because all forces were involved to save people firstly.

A.Aslanov also stated that in the most countries of the world the people insure their real estate against the sudden disasters and in such cases the opportunities of the insurance companies are used. We should achieve for spreading of this experience in our country too. At present the state undertake the providing the thousands of family lost their all fortune with the apartment and other living means. After the natural disaster tens of new settlements were built and put into operation and all apartments were provided with all living means. In only our region 1100 family were provided with new apartments supplied with all kind of living means. At present the infrastructure of the region are restored, destructed, ruined school, hospital and other social buildings, roads, bridges restored. In the territory of region 300 km and around Sarigol 50 km dam was built and the height of the dams was increased 1 meter.

In connection with the preparation for the conference the opportunities of "Fovgal" Association are used for becoming familiar with the situation in the accident zones directly, learn the organizing rules of the struggle against it and becoming familiar with the works for the liquidation of its results. The expert group from the scientists and specialists organized by Fovgal Association by the financial support of Oxfam international humanitarian organization operating in Baku were sent to Imishli, Sabirabad, Saatli, Salyan, Neftchala, Hajigabul regions located in the lower flow of Kur and Araz which was subjected the most damages due to torrents, floods, landslides and they became familiar with the situation directly and collected rich material. It was stated in the report submitted by them those incessant heavy rains and anomalous heats continuing for 5-6 months, even old residents of the region could not remember the scale of torrent, flood and landslides happened due to fast melting of snow in the mountains. As a result of the disaster tens of villages, settlements and other residential places were ruined due to flood and 1617 house were damaged. Plot of lands of ten thousands ha remained under the water and roads, bridges and infrastructure destructed.

That year the population of Quba-Qusar-Khachmaz, Shaki-Zaqatala-Balakan-Ismayilli and other regions of the country heavily and considerably suffered from torrent and flood.

According to Hyogo program, the main purpose of bringing this topic up for discussion at the conference is to expose the efforts made during the struggle with torrent, to reveal mistakes and discrepancies, to systemize them and to make use of them in the future, to improve the received practices and to spread them. From this point of view another issue attracts attention to: to eliminate consequences of a big disaster in a short time and organized manner! The topic was widely discussed at scientific and practical conference, various reasons were mentioned. The materials prepared by the panel of the association "Fovqal" ("Emergency") show us that state bodies, representatives of private companies and executive bodies of the suffered regions, as well as municipality representatives clarified real reasons of big losses during natural disasters in their speeches and statements.

First reason:

Monitoring system against disasters is always kept by Azerbaijani government in accordance with international technical standards and being timely updated. After November earthquake in 2000 in Baku, Seismological Service Center was totally reestablished in accordance with modern standards. Nowadays, the scientists and specialists of the center carry out monitoring of earthquake centres, provide good results and these practices are used both by corresponding state bodies and communities in the strengthening of durability against emergency situations. The role of operative preparation and warning systems of the Ministry of Extraordinary Situations was especially stressed. Monitoring networks of Hydro-meteorological Centers of the Ministry of Ecology and Natural Resources cover the whole territory. Historically the regions frequently subjected to natural disasters were located on northern and eastern slopes of Big Caucasus. In 2009 the complex of Hydro-meteorological and Ecological Scientific and Research Center was built at the height of 3000 meters and given to exploitation. This center is intended to conduct research and monitoring works and it is equipped with modern technology and equipment, as well as highly skilled specialists, favorable conditions necessary for their work in very severe climatic conditions.

Second reason:

Attract all business forces of the country to struggle against natural disasters in organized manner. It will be recalled that the basis of Hugo program is comprehensive and mass cooperation. As it is mentioned in the program, a disaster may affect every person so it concerns everybody. This idea was widely discussed at the conference: during a disaster not only the suffered regions but also corresponding state bodies, local bodies and municipalities, private sector, all communities and all local population should combine their efforts and mobilize all technical and economic resources.

Third reason:

In order to carry out the struggle against a disaster in a systematic manner, the proper division of forces is very important. The main point of the plan is to evacuate the population from dangerous zone and prevent losses of human lives. For this purpose rescue means, vehicles and experienced rescue teams were used and to prevent human losses, 7424 families were relocated and received clothes, food, water, healthcare services, etc. Dozens of tent towns were pitched, as well as medical and sanatoria services were installed. As a result of such properly organized and operative work, there were no human losses.

Fourth reason:

The reasons of quite big destructions and losses as a result of natural disasters were widely discussed at the conference, as well as human factor was thoroughly spoken about. According to the experts one of the reasons of most destruction is indifferent attitude of community or population to its fate. Thus, building of houses in dangerous areas, not following construction norms and rules, not taking preventive measures in timely manner and so on bring to such results. According to researchers in flooded areas, the houses destroyed during 2011 torrent and floods were built out of raw brick, while the constructions out of such materials in the possible flood areas are entirely prohibited. Conference participants noted the importance of corresponding measures in prevention of such cases.

The importance of periodical conduction of measures against hail seriously damaging country economy and local population in the mountainous and foothill regions was discussed. It was noted that mountainous and foothill regions constituting more than a half of country's territory are potential hailing areas. The hail fell from May till June in Dashkasan, Gadabay, Goygol, Zaqatala, Shamakhi, Fuzuli and a number of other regions caused big damages. In some places there was even egg-size hail, in some other regions it reached 200-300 gram; the hail seriously damaged roofs of some houses, as well as cattle, sown area, electric and communication lines and so on.

Despite other natural disasters the ways of prevention of hailing are known long ago. Like in many countries of the world these methods were also used in Azerbaijan when it was a part of the Soviet Union. Special service areas, such as militarized groups operated in our country for the struggle with hailing. When there were icy clouds these groups dispersed the clouds with the help of canons and rockets. In the second half of 80th these militarized groups were liquidated due to political events in the Soviet Union.

It was said at the conference that in a number of countries in the struggle against hail, the opportunities offered by insurance organizations are used. It was stressed that while there are no such organizations in our country, it should be established under the Ministry of Extraordinary Situations. The shortages and mistakes made in the organization of such struggle were widely discussed, as well as effective offers were made at the conference.

DPhil. prof. E.N. Khalilov, chairman of the International Committee for Geological and Environmental Global Changes (Munich, Germany), and Neron Babakhanov, professor of geography department of Baku State University, said that big losses and human deaths due to natural disasters are connected with the current global climatic changes. Scope and intensity of natural disasters during the last 10 years has increased manifold. However, it means that alongside with conduction of global security activities we should follow security methods of hundred year practices. The matter is to periodically clean the rivers who suffered from floods and torrents, to control protective dikes and installations, to timely carry out repair and restoration works, not to build houses in dangerous areas, to follow construction norms and rules, to conduct corresponding preventive activities and to enlighten population. The analysis of 2011 natural disasters shows that if all the above mentioned recommendations had been applied, the scope of losses would be much less. It was said that a big part of houses was out of row break; the delta of Kura River was covered with 3-4 cm silt and there was the pass of only 30-40 cm for river water to flow down to the Caspian Sea. Such cases should be avoided and severe discipline should be established.

In addition, during the conference it was noted that already beginning from the end of 2010, there have been works done in this direction: a comprehensive action plan is prepared for the implementation of shore protection and dam protection works, improvement of permanent control and management of water reserves created on water sources and rivers, cleaning of river beds from silt and other complex measures. For the implementation of these works, in addition to local scientists and specialist, foreign experienced experts were also invited. Although, this is large-scale and long-term work, requiring great efforts and means, it is very important for the prevention of future losses.

Recommendations of the theoretical and practical conference

Participants highly appreciated works performed and achievements made for the struggle against torrents, floods, large-scale landslides, hail and other natural disasters, prevention of results of catastrophes. They gave some recommendations to prevent discrepancies and shortcomings:

1. Construction works shall be seriously prohibited in the areas with high probability of torrents, floods and large-scale landslides and restricted protection resources, or construction of which cost a lot, movement of families living in such places from the villages and settlements to safe places shall be organized by the consent of the families, first of all, in mountainous regions and foothills with frequent torrents, inclined to landslides. Territories of such regions shall be precisely mapped, their safety degree shall be determined and only then restrictions or prohibitions of their use may be imposed.
2. Periodical cleaning of river beds from materials and of the delta of the Kur and maintenance of its operation condition (at the depth of 5-6 meters) to allow free flow of the Kur and Araz even at high water times is one of the most important measures for the prevention of floods as that was one of the reasons of such a terrible impact of 2010 floods.
3. Conference participants highly appreciate the significance of a new branch from the Araz for the slackening of floods. Laying of the branch under the conditions of such a serious struggle against floods was extremely resolute move and it has justified itself. Otherwise we would have greater losses. Conference participant that expressed their attitude to ambiguous relation to the laying of the branch noted that this measure in future will not only play a significant role in the prevention of probable floods, but also will provide inclusion of thousands hectares of unused lands in the territories along the new branch of the Araz to the arable turnover. Connection

of the new branch with the Kur by means of lock in future in case of probable flood in the Kur will provide transference of excess water to the branch. The task is to provide permanent operability of the new branch.

4. In the recent decades hails damage population and economy of mountainous regions and foothills. Whereas, unlike other natural disasters, there is a time-proved method for the prevention of hails, hail carrying clouds are rendered harmless by means of crystal reagents. As in many countries of the world, the method is widely used in Azerbaijan. There were militarized troops provided with anti-hail guns and rockets. After the fall of the Soviet Union, the system was completely eliminated in the republic. Conference participants noted the necessity of the creation of anti-hail militarized troops under the Ministry of Emergency Situations. It was shown that, anti-hail troops for a long time exist in neighboring countries.

It was noted in reports and speeches, that traditional character of unconditional compensation of the damage caused to the population in emergency situations for the expense of the government causes is a disturbing fact. This in the result creates tranquility people. Settlement in prohibited dangerous regions, not being concerned about durability of constructions etc. and in-observance of rules of safety has become a custom among the population. Therefore, insurance of immovable property widely used in the world practice has not been yet settled in Azerbaijan.

5. It was noted in reports and speeches, that traditional character of unconditional compensation of the damage caused to the population in emergency situations for the expense of the government causes is a disturbing fact. This in the result creates tranquility people. Settlement in prohibited dangerous regions, not being concerned about durability of constructions etc. and in-observance of rules of safety has become a custom among the population. Therefore, insurance of immovable property widely used in the world practice has not been yet settled in Azerbaijan.

Given all the above-mentioned, the parties unanimously decided to devote the next conference planned as a continuation in this content of the subject for October 2012 by the European Education and Information center to *"Modern problems of the prevention of the results of emergency situations"*.

National and Municipal Campaigns on Informing and Warning the population about Emergencies at Central and Municipal Levels: Development of Information Materials for the most vulnerable people, (ECRM, YEREVAN)

Global objectives

Long-term.

- Acquisition by the population of the Republic of Armenia of the required knowledge and fundamental skills in properly reacting when informed and warned about an imminent hazard and in the case of specific disaster. Achieving this goal requires the recurrent holding of the national and municipal Campaigns.
- Usage of the experience, gained in training of the population of the Republic of Armenia in skills of behavior when informed and warned about imminent hazard and in times of disasters, shared by the Southern-Caucasus countries and adjacent states at organizing the similar Campaigns in neighboring countries with taking into account their specific geographical and ecological-climatic conditions.
- Basing on the Armenian expertise development of a regional informing and warning system for the populations of the Southern Caucasian countries and adjacent states about trans-frontier emergencies..
- The methodology and plan for action aiming to develop and hold of the National and municipal Campaigns on informing and warning all social groups of population about emergencies at national, regional and municipal levels presented in this project can be (after being appropriately polished up) submitted as an essential component for the development of regional and national informing and early warning systems for other interested countries and regions.
- Profound mitigation of consequences and reducing of losses which likely to be caused by trans-frontier emergencies.

Short term.

- Elaboration of Methodic and Plan for actions aiming to developing and holding national and municipal “Campaigns” on informing and warning the populations about emergencies.
- Development and holding municipal and national Campaigns on informing and warning the populations about emergencies in order to keep the population of the Republic of Armenia informed on possible risks (natural, ecological, industrial, nuclear, transport) threatening each particular country region and about what to do when informed and warned on an imminent hazard and in the case of a particular disaster.
- Elaboration the information materials (on informing, educating and warning the population): Basic (national) information materials for distribution in each family, information materials designed for municipalities at special risks and specific targeted groups of population (including the children with disabilities).
- As local governance bodies are the first who must protect the population, this Project has to be implemented at the both: central and municipal (local) levels. Leaders of local governance bodies, heads of schools, hospitals, polyclinics, industrial enterprises, offices and mass media are called to be engaged into the development and realization of this Project.

DURATION 2005-2015

PREVIOUSLY OBTAINED RESULTS

The pilot Project: “*National and Municipal Campaigns on informing and warning the population about emergencies at central and municipal levels: basis for a regional early warning system for Southern Caucasian countries and neighboring states in trans-frontier emergencies*” is being developed by the European Interregional Scientific and Educational Centre on Major Risk Management (Yerevan, Armenia) under the support of the European and Mediterranean Major Hazards Agreement of the Council of Europe.

In 2006-2011 this work was carried out in line with the priorities for action in the field of disaster risk reduction in the European and Mediterranean space set under the resolutions of the leading authorities of the “Agreement”, in particular those responding to the priorities for action set by the “Medium- Term Plan 2006-2010”.

The Project is being developed within the “Agreement’s” coordinated Programmes.

Basing on the outcomes of the activities performed within the Project in 2006, the comprehensive Activity Report, that includes the detailed description of the performed activities together with analyses of some challenges for development and especially for practical implementation of the Project was prepared. The ways to resolve the

above challenges have been considered as well as some corrections during the Project development and implementation phases have been made. The Activity Report 2007 was focused on the basic outcomes with references if necessarily to the results of analyses 2006. In 2008 the draft variant in English of “The Methodology and Plan for action aiming to develop and hold National and Municipal Campaigns on informing and warning the population about emergencies at central and municipal levels: basis for a regional early warning system for Southern Caucasian countries and neighboring states in trans-frontier emergencies” was elaborated.

The final variant in English of *basic (national) information materials* were elaborated:

- Information Leaflet: What to do first”
- Brief information for the population what to do first when warned on an imminent disaster
- The priorities for action to be undertaken by the population when warned on an imminent disaster or in case of disasters likely to occur in Armenia

The draft variants of the *information materials for municipalities at special risk* in English were prepared:

One for municipalities at a possible radiation risk, another for the municipalities in whose territories some hazardous substances are being produced, used or stores; and the third one for the municipalities, located in flood-prone vicinities adjacent to high pressure dikes.

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In 2009 the pursued goals corresponding to the Administrative Arrangement were supplemented and corrected, drawn on the new priorities and requirements of the guidelines of the EUR-OPA Major Hazards Agreement and the actual events that have taken place. The need to insert these supplements and amendments has also been dictated by the significance of the issues discussed during the International Workshops held under support of the EUR-OPA and attended by EUR-OPA representatives in line with ECRM specialists as presenters and panelists. By taken into account the above, the new priorities and requirements of the guidelines of EUR-OPA, in particular, ensuring the provision of equal opportunities for the most vulnerable segments of populations: the children, elderly and people with disabilities (the disabled) to education, informing, warning and relevant public services in regard to the observance of their rights, equitable access to meeting their needs in the field of disaster risk reduction, the protection of life and health, the administration of first aid and first psychological aid in emergencies, the Yerevan European Centre (ECRM) in 2009 within the present Project : “National and Municipal Campaigns” has conducted some additional researches addressing the above venues.

In particular, there was analyzed the text of “The Standard Rules on the equalization of opportunities for people with disabilities” (adopted by the UN’s General Assembly) in the Appendix to Resolution 48/96 of 20 December 1993 and there have been given some suggestions to supplement the texts of the Standard Rules addressing the above direction. In a part dealing with ensuring the provision of equal opportunities in the above area to the disabled of all age groups requires in line with resolving legislative and other strategic goals, there have been prepared some suggestions aimed at meeting the above three important objectives:

- To educate emergency and relief managers and workers about the special and heterogeneous needs of the people with disabilities (including, the preparing and publication of correspondent information materials)
- To bring the people with disabilities to the emergency management table with the first responders to introduce the two sides to each other:
- *to educate first responders to work adequately with disabled, to ensure adequate preparedness and equip rescuers and related to them the personnel servicing the disabled to rescue and search the disabled and show them first aid and first psychological assistance*
- *to make people with disabilities active participate in disaster planning and preparedness, teach them how to survive in emergencies, encourage them to cultivate creative skills, first - and self-aid skills included.*
- For the people with disabilities to be insured equal rights and enhanced education and preparedness, the development of relevant information materials assigned to them and their training should be implemented through regular organizing and holding national and municipal campaigns on informing and warning the population about emergencies.

The research outcomes have been submitted by ECRM specialists at the following International Workshops held by the support of EUR-OPA in 2009:

- “Human rights in Disasters: Search and Rescue operations in disasters, especially for vulnerable people” (5-6 November 2009, Athens, Greece)

- “International Workshop on disaster education/training (23-24 November, 2009, Antalya, Turkey)”

The suggestions drawn on the outcomes of the above researches as supplements and amendments have been mainstreamed into methodological and informational materials developed within the given Project :“National and Municipal “Campaigns”, being briefly quoted in the relevant sections of the 2009 report. In 2009 the final universal variant of “The Methodology and Plan for action” has been prepared . imultaneously, by given the above , a number of sections related to the Methodology and Plan for action” have been supplemented and corrected . Some substantial supplements have also been made to Section 4, in Sub-section 2.6: “Specific target groups of the population” (pages (27-29) . The latter notes, that “from the specific targeted groups of populations, the primary focus in national and municipal “Campaigns” will lie on the most vulnerable layers of population, including the children, elderly and disabled.

Based on a brief analyses of the challenge, there were made some concrete proposals on how to create relevant information materials. The final variants in English of the following informational materials assigned to the municipalities at special risks have been prepared in 2009:

- A manual for the population on how to act when *r a d i a t i o n p o l l u t i o n* is real or seems imminent (the priorities for action to be undertaken by the population)
- A manual for the population on how to act when *a f l o o d* is real or seems imminent (the priorities for action to be undertaken by the population)
- A manual for the population on how to act when *c h e m i c a l p o l l u t i o n* is real or seems imminent (the priorities for action to be undertaken by the population)

Given, that the Armenian terrain and the entire Southern Caucasus region are exposed to high seismic risk as well as by taking into account of the lessons learnt from the devastating Spitack earthquake that hit Armenia on 7 December 1988 , the listed three additional information Modules and the updated final version have been developed:

A manual for the population on how to act when *a n e a r t h q u a k e* is real or seems imminent (the priorities for action to be undertaken by the population)

The above materials were being submitted to the Agreement’s Secretariat:

3.C. AWARENESS INITIATIVES

Development of the booklet “Nuclear Hazard Basic Knowledge” (TESEC, KIEV)

In his Statement for International Conference “Twenty-five Years after Chernobyl Accident. Safety for the Future”, (Kyiv, April 20-22, 2011), the UN Secretary-General Ban Ki-moon said:

“To many, nuclear energy looks to be a relatively clean and logical choice in an era of increasing resource scarcity. Yet the record requires us to ask painful questions: have we correctly calculated its risks and costs? Are we doing all we can to keep the world's people safe? ...Looking to the future, we need international standards for construction, agreed guarantees of public safety, full transparency and information-sharing, among others. ... Let us make that the enduring legacy of Chernobyl.”

In that line, both the Secretary-General of the Council of Europe Thorbjørn Jagland and the UNESCO Director-General Irina Bokova pointed out in their Statements at the conference that people have right to be better informed and protected against the nuclear hazard.

The public perception of Chernobyl and Fukushima nuclear accidents clearly shows the insufficient information of people on radiation hazards attributed to radionuclides releases. The iodine doses received in Europe from the Fukushima release were minimal (less than 1/1000 of the exposure from natural radionuclides) yet population in many European cities felt threatened and were not ready to trust the official information provided by national authorities or experts.

After Chernobyl and Fukushima emergencies, experience shows that increasingly people only trust information they can actually understand. Thus it is important to provide them with meaningful information about nuclear hazard and build their own capacity to analyse risk.

The conclusions adopted of the International Conference “Twenty-five Years after Chernobyl Accident. Safety for the Future” state that :

*“... The activity aimed at better awareness and knowledge of population on the nature of radiation hazards and protective actions in case of an accident should be improved. **This work should be implemented directly to the public and via teachers, doctors and other population groups who will be able to disseminate this knowledge.** The international collaboration on all aspects of better radiological protection of people should be strengthening.”*

Following that line of thought, the EUR-OPA Major Hazards Agreement of the Council of Europe has proposed to develop a new publication on “Basic Knowledge on Nuclear Hazard : the lessons from Chernobyl and Fukushima”.

The idea is to provide *ex-ante* more accurate information of population on radiological hazard as the best way to protect them in case of disaster. The aim of this book is: present trusted basic knowledge on nuclear hazard in such a way to interest different groups of people (journalists, decision makers, students, ...).

The draft of the Booklet has been developed on the basis of 25 years experience lecturing for different categories of people: students, emergency workers, medical doctors, teachers and general public from Chernobyl contaminated area.

The draft of Booklet has been presented 22.08.2011 on Seminar “**Sustainable development for Chornobyl-affected areas**” , organized by ICRIN/UNDP, University of Oxford and NaUKMA with the support of UNV and the Public Affairs Section of the U.S. Embassy in Ukraine.

The draft of Booklet has been presented on Scientific meeting: “**The Fukushima nuclear accident: is it another Chernobyl ??**” organized by San-Marino National Authority, CEMEC, Italian Association for Medical Radiation Protection. 19

The draft of Booklet has been presented on International Earth Science Olympiad -IESO 2011 5-14 Sep. 2011, Modena – Italy organized by Italian Ministry of Education, Local Organizing Committee IESO 2011, Department of Earth Science University of Modena and Reggio Emilia.

The draft of Booklet has been presented on First meeting for the joint project « Nuclear Hazard. Chernobyl and Fukushima – Lessons for Public Awareness »

Office of the Council of Europe, Friday, 4 November 2011

The Promotion of Risk Prevention Culture regarding the Natural Disasters and the Implementation of Anti-Risk Education Activities in Schools, (*ECMNR, CHISINAU*)

Objectives:

1. The popularization of the safety regulations in exceptional cases.
2. The elaboration of suggestions for carrying on a study in the field of high qualification didactic staff training for the management of natural risks and the directions for the improvement of the didactic and managerial staff from pre-university education institutions.
3. The elaboration of the conceptual guiding lines concerning the strategy of education in the field of protection against natural disasters in pre-university education institutions.

Introduction

The health education of preschool children, pupils, students is a primordial task. The curricula elaborated for the school subjects provides for too few classes and formulates too few objectives concerning the understanding of safety rules in the event of natural disasters of major risks. The familiarization of pupils and students with the contemporary methods in event of accidents, natural disasters is a major objective point of the educational process.

The exceptional situations on the territory of the Republic of Moldova prove that, during the last years, a great part of the population, including the didactic staff, shows a decreased competence and even ignorance as to the safety rules and the organization of emergent activities concerning children rescue and protection in exceptional situations. The tasks of the courses, school subjects: Health Education, Fundamentals of Life Safety, Civil Defense, the educational classes with the given themes are primarily humanitarian, destined for children protection against hostilities or catastrophes, for helping them to cope with their immediate effects, ensuring the conditions that are necessary for the survival.

The respective classes aim at creating knowledge and practical skills in the event of exceptional situations with major risks as:

- natural disasters (earthquakes, landslides, floods, storms, drought, abundant snowfall, hoarfrost, hail, etc.);
- accidents and catastrophes of techogenic type (explosions, accidents and large-scale fire); etc.

Multiple data show that the destroying force of technogenic and natural catastrophes is growing permanently.

In the actual conditions from the Republic of Moldova and other European countries, the issues of children protection against dangerous factors of natural disasters must be of first priority in the educational process from schools.

Popularization of safety regulations in the event of exceptional situations

The facts mentioned above require the organization and execution of the educational process in a new way: the perception of the complexity and importance of the anti-risk education, the identification of available resources and experiences in the field of education and the study of contemporary protection methods in the event of natural disasters.

We have used different active and participation methods as problematization, debates, modeling, algorithmization, case study, simulation, brainstorming, etc.

The teachers have used creative exercises within their classes, using some methods suggested by us: interview, divergent questions, characteristics for objects, presuppositions, etc.

The new concept of creativity admits a great contribution of the influence of the environment and education on the creative formation of everybody. The organized classes convinced us that every activity can be carried out at a high level of creativity.

The results of the drawing contest with the motto "Life safety in the event of natural disasters according to children's view" confirm the facts set forth. The children from forms where there have been organized classes with the respective theme before took part with an obvious interest, proving their knowledge in the field of protection in the event of natural disasters.

Our participation with the communication "Anti-risk education" at the Scientific conference organized by the Institute of Sciences of Education in 2004, where we discussed different theoretical aspects and methods of implementing the theory of a new education in the work practice in schools served as a stimulus for supporting the risk prevention culture in the event of natural disasters and for implementing anti-risk educational activities. One of the discussed subjects was *The promotion of the risk prevention culture and the formation of an appropriate behavior in exceptional situations*.

We have collaborated with the Institute of Sciences of Education in the field of anti-risk education, participating at the elaboration of the conceptual guiding lines concerning pre-school children and schoolchildren education in the field of protection against natural disasters.

This project ended with a research:

Conceptual guiding lines concerning pre-school children and schoolchildren education in the field of protection against natural disasters

1. The elaboration and implementation of a detailed plan of education and management activities concerning the natural risks in every education unit from the Republic of Moldova.
2. The improvement of the didactic staff from pre-school institutions and school units in the field of the protection against natural disasters.
3. The elaboration of the didactic support concerning the pre-school children and elementary school children education concerning the behavior and protection in case of natural disasters.
4. The revision of the normative documents elaborated by the Ministry of Education in the context of the realization of the anti-risk education project in case of natural disasters.

I. Directions for the advanced training of the didactic and managerial staff in pre-university education units in the field of children protection against natural disasters.

1. The study of state documents concerning the protection in case of natural disasters.
2. Discussing issues concerning the risks in case of natural disasters in the Republic of Moldova at the courses of advanced training and of the managers in the education units.
3. The systematic organization of methodic seminars and carrying out practical activities with the pupils and didactic staff in the education units from the Republic of Moldova in matters of risk issues in case of natural disasters.
4. Special training (according to a well determined program) of the class teachers in the field of pupils' protection in case of natural disasters.
5. The advanced training of the managers from schools according to a special program in what concerns pupils' protection in case of natural disasters.
6. The fulfillment of some courses of training of teachers who have a larger experience in this activity, within which special classes concerning the field of risks in case of natural disasters in the Republic of Moldova and in other states will be taught.

Thematic orientations concerning the promotion of the risk prevention culture and of forming an appropriate behavior in exceptional situations

The following subjects have been elaborated for the seminars fulfilled with the participation of the didactic staff from schools, with the aim of forming the skills and competences of an appropriate behavior in case of natural disasters.

Plan – program (annual) of work with adults aimed at promoting the risk prevention culture and the appropriate behavior in exceptional situations with major risks

1. The risk in case of natural disasters (theory).
2. Individual safety (theoretical and practical).
3. Family and children's equipment in case of calamities (theoretical and practical).
4. The organization of safety measures (theory).
5. Children's safety in emergency state (theoretical and practical).
6. Anti-risk measures after disasters (theory).

Suggestions for carrying out researches in the field of highly qualified didactic staff training for natural risks management

Organization of higher Master's degree studies

1. Professional master's degree studies in the field: social assistance, civil defense, natural risks management

Specialization in the field of professional training:

- a) of professionalization/ consolidation, extending, professional training in the public field (employees in the public field, public officers)
- b) of consolidation of the professional skills, reinstatement in the professional/social activity of mothers after three years of maternity leave
- c) studies of research in another domain than those mentioned in the license diploma, gathering 30 credits for major specialty subjects.

In order to ensure the development of the capacity of responding to the social, scientific and ethical problematic in the work process and in the development of the skills of realization of the diagnoses based on research in view of solving issues by the integration of knowledge or by interdisciplinarity.

2. Studies of scientific research, with the aim of broadening the knowledge in the administrative field and in the field of natural risks management

Thorough study in the field of professional training

Civil defense

Qualification description

The skills for the master degree in the field of the civil defense are developed by means of special courses with vertical orientation, where the Master degree candidates will extend their knowledge obtained during the 1st cycle and during the courses with horizontal orientation, aimed at developing the systemic skills that are peculiar to the given cycle. The Master degree is oriented towards a double direction: to the development of the research skills and of instrumental and professional skills and, due to this, it is programmed for fulfilling a series of individual works, research projects and projects for the application of knowledge according to the specialization field.

The Master degree candidates will be able to apply the acquired knowledge and skills, the abilities of solving issues in new circumstances, unknown in some larger or multidisciplinary contexts peculiar to their field of study.

The skills of the Master degree holder will allow him/her to apply the knowledge for solving complex issues, formulating opinions that include the expression of the responsibility or legislative, social order, etc.

General skills:

1. The capacity of analysis and synthesis of the subjects in the field of the natural risks management.
2. The skill of self-perfection.
3. The skill of using the methodology of different disciplines in an integrated way.
4. The skill of solving situations of problem.
5. To possess enough practice for fulfilling a research under the supervision of a scientific advisor.
6. To have the ability of applying his/her knowledge in practice.
7. To possess the ability of critical thinking.
8. To possess the ability of working independently.
9. To be able to formulate conclusions on the grounds of his/her knowledge in a reasonable, clear way and without ambiguities for the audience of experienced and common specialists.
10. The development of the ability of answering to the social, scientific and ethical problematic in the process of work.

Description of specific key-competences

To have analytical and predictive abilities:

1. For the scientific examination of the given field and for acquiring new knowledge that is necessary to extend the level of knowledge
2. To determine the importance of some study fields.
3. To formulate the problematic by study fields.
4. To mark out the collisions and lapses of the regulations in the field of the civil defense.
5. To propose solutions for removing the legislative deficiencies.
6. To get self-informed.
7. To apply the theoretical knowledge in practice.
8. To acquire the existent comparative aspects in a study field.
9. To link up the national law system from the field of the civil defense to the international one.
10. To have the ability of using own methods of different disciplines in a combined way.

Courses of formation of general skills

Risk management
Natural risks management
Actual issues related to the psychosocial assistance
Rescuer's deontology
Actual issues of the civil defense
Theoretical aspects concerning the central and local public administration
Foreign language (professional lexis)
History and methodology of the research field

Psychology of management
Ethics and psychology of the psychosocial assistance
Giving first aid in exceptional situations
Actual issues of the work and social protection

Volume of work for the training programs, expressed in credits Cycle II: 90-120 credits

II. Conceptual guiding lines concerning the strategy of education in the field of protection against natural disasters in pre-university education institutions

The given subject *Anti-risk education in case of natural disasters* has stirred up a vivid interest at a round table organized on the 2nd, 3rd of December 2011 and at which not only representatives from the central public administration, but also those from the academic environment took part, too.

The exchange of opinions between the representatives of the Civil Protection Service and Exceptional Situations and the scientists of the academic field, especially those of the Faculty of Psychology and Sciences of Education under the supervision of the university professor, Dean of the faculty, Mr. Vladimir Gutu from the Moldova State University has been particularly efficient.

The general objectives were:

1. The support of the risk prevention culture in case of natural disasters and of the implementation of anti-risk educational activities in schools.
2. The popularization of knowledge about the character of natural hazards and providing the methodical support in connection with didactic staff training and the development of the skills of forming an appropriate behavior in risk situations.

For fulfilling the proposed objectives, some questionnaires mentioning the realizations and concrete proposals concerning the implementation of anti-risk education activities in schools and the elaboration of the education principles in the field of the protection against natural disasters and related to the promotion of the risk prevention culture in case of natural disasters have been filled in.

The opinions of the practitioners from the Department of Civil Protection and Exceptional Situations and the opinions of scientists from the field of pedagogy and psychology helped us to make some conclusions concerning the formation of some mechanic behavioral skills : before the calamity, during and after the natural calamity and a child-centered education.

As well, in result of the debates, we came to the conclusion that the introduction of new subjects in the school curriculum is not appropriate, because the school program is overcharged, but new objectives could be introduced and new skills could be formed within other subjects, which concern the Health Education, Civil Defense, Fundamentals of Life Safety, Life Habits and, especially within educative classes.

Educational principles in the field of protection against natural disasters

1. The orientation of the anti-risk education towards child's personality
2. Carrying out the educational process on the background of the collaboration relations between the child (pupil) and educator (teacher)
3. The transparency and appropriate informing of all the persons (pupils, parents, didactic staff, technical staff, etc.) concerning the risks in case of disasters.
4. The use of different strategies and technologies concerning appropriate pupils' behavior forming in case of disasters.
5. The formation of some behaviorist skills of mechanic type: before the disaster, during the disaster and after it.

In the context of the aforesaid, we consider that children, pupils, and students' education in the field of life security in case of natural disasters is an important socio-humanistic problem not only for the Republic of Moldova.

CONCEPTUAL GUIDING LINES CONCERNING THE ELABORATION OF AN EDUCATION PROJECT IN SCHOOLS CONCERNING THE SUPPORT OF A RISK PREVENTION CULTURE IN CASE OF NATURAL CALAMITIES WITH MAJOR RISKS

We have taken into account a series of principles and psycho-pedagogical requirements concerning the formation of basic skills: elementary notions, protection methods, safety rules, risk identification when elaborating an education project for schools, pupils, parents, didactic staff and other persons interested in supporting the risk prevention culture in case of natural disasters and in implementing the anti-risk education activities in schools.

The education program concerning the formation of knowledge and practical habits in case of exceptional situations with major risks.

FRAMEWORK OBJECTIVES

Knowledge and use of the basic notions that are peculiar to the discipline.

Assimilation of the protection methods in case of exceptional situations by pupils.

Development of exploration (investigation) skills of the reality and risk identification.

Development of interest in assimilating safety regulations in case of exceptional situations with major risks.

1. REFERENCE OBJECTIVES AND EXAMPLES OF LEARNING ACTIVITIES

Reference objectives

At the end of the year, the pupil will be able to:

- enumerate the risks in result of the natural disasters: earthquakes, landslides; calamities determined by climacteric conditions (storms, heavy rainfalls, floods, hail, drought)
- give an account of the risks following technogenic disasters.
- identify the areas from the locality which are predisposed to natural disasters: landslides, floods, etc.
- formulate safety rules in case of natural disasters.
- know the contemporary methods of protection in case of natural disasters.

Learning activities

Theoretical and practical classes, games and exercises for the memorization of the relevant information.

2. THE FORMATION OF COMMUNICATION SKILLS

Understand the meaning of notions, new expressions.

Describe the safety methods in case of natural disasters verbally .

3. THE DEVELOPMENT OF THE INTEREST AND MOTIVATION FOR STUDYING AND SKILL FORMING

Prove interest and availability in examining various tasks.

Take part at the organized theoretical and practical classes, at the role-plays and at the exercises with pleasure and interest and to prove a creative spirit.

3. D. ETHIC AND SOCIAL VALUES

International Summer School for Undergraduate Students of Social Sciences on Psychosocial Support in Disasters (AFEM, ANKARA)

Activity Report

European Natural Disasters Training Center (AFEM) Summer School was held between September 4-10, 2011, in Antalya, Turkey, for undergraduate and graduate students from social sciences (psychology and sociology) or health and human services departments of universities to enhance participants' knowledge on psychosocial effects of disaster and become familiar with the individual and community-based intervention.

Information related to summer school project preparation, execution and finalization is presented below;

Project Executive Committee

Kaan AKLAR, Engineer, Permanent Correspondent of EUR-OPA Major Hazards Agreement

Erkan DOĞANAY, Director of AFEM, Assistant Expert, Sociologist

Zafer YAZICI, Engineer, Accountant

Aslı AYARÖZ, Assistant Expert, Psychologist

Özüm DİNCER, Assistant Expert, Sociologist

Objectives of the Summer School

- To enhance undergraduate and graduate students' knowledge on psychosocial effects of disaster and psychosocial support principles and make them familiar with the individual and community-based intervention in order to make them to give adequate support in emergencies and disasters.
- To draw attention of the participants to the risk factors of women, children displaced and disabled people in emergency and disaster situations.
- To exchange ideas on disaster management and psychosocial support system of different countries with participants from different socio-cultural backgrounds and academic disciplines.
- To create a network composed of all participants that will be a basis for future communication to exchange of theoretical/practical knowledge and experiences; to give psychosocial support voluntarily in times of crisis; and also to make participants point of contact for future collaborations especially at international level.
- To organize workshops that address the disadvantages of women, children, displaced and disabled people in emergencies and disasters in order to discuss how to provide individual and community-based support for these groups.
- To prepare reports for each workshop that will serve as an outline of documents titled as "Principles of Psychosocial Support for Vulnerable Groups in Disasters" by the help of experts in the field.
- To gain experience about carrying out a project at international or national level.

Project budget and expenditures

Project costs were covered by the EUR-OPA and AFAD. The cost of accommodation, transport costs of lecturers and Turkish participants, stationery costs, and local transportation expenses amounted to a total of 32,969.18 Turkish Liras, and this expense was met by the EUR-OPA (Annex - 1). Transportation costs of foreign participants were 18,000 Turkish Liras that were covered by AFAD.

PREPARATION PROCESS

Announcements

In order to reach applicants at international level, Secretariat of EUR-OPA gave support to the project by diffusing application forms to the centers of the EUR-OPA member countries. Centers were asked to collaborate by spreading the form to the potential participants of AFEM Summer School. Announcement, information and application forms (Annex – 2a and 2b) were sent to the centers through the Secretariat on June 20, 2011 and deadline was July 14, 2011. In addition to that, three universities that have departments of social sciences from each member country were chosen randomly and announcements were made sent to the e-mail addresses of the departments.

Announcements for Turkish participants were made in the official website of AFAD on July 19, 2011 and the deadline of application was determined as August 15, 2011. Additionally, all state universities and private universities across

Turkey were determined and application forms were sent to the e-mail addresses of the related departments of these universities.

Determination of the participants

Language proficiency and being a student are the basic requirements for applicants to be taken into consideration. In addition, previous academic/personal experience related to disasters and emergencies and to be associated with non-governmental organizations are reasons for preference. Communication with applicants/participants was provided via e-mail. There were 29 applicants to participate in summer school from different member countries, such as, Moldova, Georgia, Sweden, Russia, Algeria, Slovenia, Spain, and France. 17 of the participants were rejected due to various reasons such as not being a student, inadequate academic/personal experience, insufficient level of English. 11 of the applicants was seen as sufficient to contribute to summer school and informed about their participation by e-mail. At national level, the executive committee had 27 applications and 8 of these applicants are qualified to be participants.

Erkan DOĞANAY, Aslı AYARÖZ and Özüm DİNCER, members of executive committee, participated in the summer school both as trainees and organizers because they were matching the criteria to be trainees of the summer school. All trainees were asked to sign participation agreement (Annex – 2c) and send agreement as an e-mail not later than September 2, 2011 as a prerequisite for being a participant. Moreover, at the beginning of the summer school, they were asked to undertake that they would comply with the list of rules that the executive committee established (Annex – 2d).

PARTICIPANTS OF AFEM SUMMER SCHOOL

Trainees

Name, country, and education level of local and foreign participants are stated below;

- 1) Adam Francis Chesterman, France, Environmental Social Psychology – graduate student
- 2) Andrei COJOHARENCO, Moldova, Law - graduate student
- 3) Aslı AYARÖZ, Turkey, Psychological Trauma - graduate student
- 4) Barbara POPIT, Slovenia, Psychology - undergraduate
- 5) Berat YOLDAŞ, Turkey, Sociology – graduate student
- 6) Burcu ÇOKGEZEN, Turkey, Psychology -undergraduate
- 7) Damla GÜNEYER, Turkey, Psychology -undergraduate
- 8) Erkan DOĞANAY, Turkey, Science and Technology Policy Studies - graduate student
- 9) Giorgi GRDZELIDZE, Georgia, Medical School -undergraduate
- 10) Gizem MURATOĞLU, Turkey, Social and Political Sciences - undergraduate
- 11) Iztok ZVER, Slovenia, Psychoanalytical Studies - graduate student
- 12) Katja LEVOVNIK, Slovenia, Psychology - undergraduate
- 13) Laura Riera DOLZ, Spain, Public Health in Emergencies - graduate student
- 14) Lejla MULALIC, Slovenia, Psychology -undergraduate
- 15) Marusa NAGLIC, Slovenia, Psychology -undergraduate
- 16) Naz CUGUOĞLU, Turkey, Psychology - undergraduate
- 17) Nina IVANCIC, Slovenia, Psychology -undergraduate
- 18) Özüm DİNCER, Turkey, Woman Studies - graduate student
- 19) Saliha AKBAŞ, Turkey, Psychology -undergraduate
- 20) Sasa SAMOTORCAN, Slovenia, Sociology - undergraduate
- 21) Tuğba ÖZCAN, Turkey, Sociology - graduate student

Lecturers

- 1) Psychologist Nedret ÖZTAN, Ph.D. (Part Time Instructor at Bilkent University)
- 2) Gülgün TEZGİDER (Emergency Support Foundation – Board Member)
- 3) Clinical Psychologist Öznur ACİCBE, M.A. (Instructor at Maltepe University)
- 4) Social Psychologist Müjde KOCA ATABEY, Ph.D. (Scientific and Technological Research Institution of Turkey - TÜBİTAK)
- 5) Murat ATABEY (High School Teacher – Visually Impaired)
- 6) Social Psychologist Selin SALMAN ENGİN, M.A. (Researcher at Middle East Technical University)

Administrative Staff

- 1) AFEM Accountant Zafer YAZICI (Geological Engineer)

2) AFEM Permanent Correspondent Kaan AKLAR (Civil Engineer)

3) Press Staff Tuncay IŞIK (Official in AFAD)

Content of training

As presented in the schedule of the summer school (Annex - 3), the executive committee made opening speeches at first day of summer school that included introduction of AFAD, EUR-OPA, and AFEM; purpose of the summer school; rules and regulations to be followed during the school and expected results of the school. Moreover, conceptual framework of psychosocial support and vulnerable groups in disasters and emergencies were presented.

In the afternoon of the first day, there were presentations of each trainees that included their academic and personal experiences related to disasters and emergencies in addition to functioning of psychosocial support service of each participants country in the disaster management system.

During summer school, each morning, group activities, which lasted 15-20 minutes, were organized in order to enhance group interaction and energize participants before the training.

Training of the summer school was held with two kind of methods; as lectures and workshops.

1) Lectures

In the lectures, individual and social responses to disaster, as well as individual and community-based psychosocial support were discussed:

a) The Psychosocial Approaches After Disasters / Nedret ÖZTAN : (Annex – 4a)

- What is Disaster?
- The Effects of Disasters on Individuals: Physical, Emotional, Spiritual, and Social Losses
- Psychological Reactions in Children and Adults
- Risk Factors that Increase the Severity of Reactions
- The Phases of Reactions: Acute, Reaction, Repair, and Reorientation Phases
- What Can Be Done After Disasters?
- What is Psychosocial Approach?
- Basic Principles of Psychosocial Support
- Who Can Work in the Field?
- Psychological First Aid
- What to Say/What not to Say?
- Psychosocial Care for Children Affected by Disasters
- Potentially Harmful Interventions
- Post Traumatic Stress Disorder Reactions
- Referral to Mental Health Professionals
- Some Signs of Burnout in Field Workers
- Self-Care for the Caretakers

b) Community Responses to Disaster and Community Based Intervention / Gülgün TEZGİDER : (Annex – 4b)

- Social aspects of disaster preparedness and recovery
- “Visible” and “invisible/hidden” effects of disasters on family/social relationships
- Identifying classes of disaster survivors as responders
- Stereotypical images (myths) on disaster survivor behavior
- Community knowledge and indigenous coping mechanisms
- Designing and implementation of community-based social support in disasters
- Involving local people/leaders/structures directly in decision-making processes
- Single track relief plans vs. multi-track rehabilitation plans for social recovery
- Local demand and genuine need for external aid/voluntary groups and Promoting multi-dimensional communications and learning in a disaster-hit community

c) Migration/Displacement: A Psychosocial View / Öznur ACİCBE : (Annex – 4c)

- Definitions of some key terms: Migration, International Migration, Emigrant, Immigrant, Forced Migration, Asylum Seeker, Refugee, Internally Displaced Person
- Migration/Displacement – Mental Health: General View
- Psychological and Social Challenges According to Phases: Pre-Flight, Flight, Temporary Settlement or Asylum Seeking, and Resettlement or Repatriation Phases
- Racism / Prejudice, Education, Labour, Relationships, Identity, Feelings, Questioning

- A Psychosocial View of the Displacement Experience
- General Psychosocial Problems: In the Country of Origin and in the Host Country
- General Psychosocial Protective Factors; Family Strength and Individual Coping Abilities; Meaning and Purpose in Life; Sense of Coherence – Identity; Social Network
- Psychosocial Support : Basic Services, Strengthening Community, and Non-specialized Support

2) Workshops

Psychosocial support for vulnerable groups (women, children, migrants, and disabled people) was discussed in different workshop sessions. Reports from these workshops were shared at the end of the summer school.

a) Women Workshop / Gülgün TEZGİDER (Annex – 5a)

- Social, motivational strengths and weaknesses of women and men before and after the disaster
- The importance of identification of cultural differences in gender issue
- Gender sensitive disaster management system

b) Children Workshop / Selin SALMAN ENGİN and Aslı AYARÖZ (Annex – 5b)

- Physical, emotional, cognitive, social risk factors of children in disasters and emergencies
- Children's emotional and behavioral responses to disasters and emergencies
- How does psychosocial support should be given to children after disasters, in the short term and long term?

c) Disability Workshop / Müjde KOCA ATABEY & Murat ATABEY (Annex – 5c)

- Physical, mental, sensory, emotional, developmental disability
- Medical and social point of view of disability issue
- What needs to be done for people with disability before, during and after disasters?

d) Displacement Workshop / Öznur ACİCBE (Annex – 5d)

- Potential psychosocial problems in refugee context and possible solutions; racial discrimination, employment difficulties, unawareness of rights, cultural conflict, integrational stress, education, relationships, identity, language issues etc.
- Vulnerability in the case of a natural disaster
- Illegals after natural disaster

ACQUISITIONS of AFEM SUMMER SCHOOL

- AFEM Summer School was our first step for the preparation of psychosocial support training of trainees kit and materials of “principles of psychosocial support for vulnerable groups” that will be ready in the long term with the help of specialists in the field.
- AFEM Summer School was carried out with the enthusiastic participants that will be ready for support in disaster and emergency situations, be national and international level communication contacts for our future projects and be able to provide source of information when needed.
- Thanks to AFEM Summer School, participants had opportunity to improve their personal capacities about psychosocial support and increased their motivation in applying their knowledge in the field of disasters and emergencies.
- AFEM Summer School was the first international project that the members of the executive committee that had chance to improve themselves in the related issue and gained experiences in carrying out a project, worked as a team from the beginning to the end.

PROBLEMS ENCOUNTERED DURING THE SUMMER SCHOOL

- Transportation Difficulties: Because of the difference arrival and departure times of the participants, the amount of expenditures had increased and members of the executive committee who were responsible for transfer of participants had faced with some problems, such as, sleep and concentration problems.

TARGETS AFTER SUMMER SCHOOL PROJECT

As seen with the summer school project again, there are some deficiencies about psychosocial support service in disaster management system in our country. Summer school project is a positive starting point about the things to do for this issue.

During the preparation and the application period, it was seen that the professionals tasked in disaster and emergency management centers in both domestic and abroad need education about “psychosocial support in disaster”. Activities providing exchange of experience like educations, seminars, workshops, summer schools must be organized to improve knowledge in national and global platforms.

The summer school project was intended for students, so experts on the subject were unfortunately out of scope. For this reason, studies about education and information exchange on psychosocial support are thought to be planned, including the professionals too. Thus, reports which were prepared in summer school can be improved by the professionals.

The preparatory work of materials about “psychosocial support training for trainers’ kit in disasters and principles of psychosocial support for vulnerable groups” has been started with the summer school and it is planned to arrange preliminary meetings, workshops and training sessions to improve these materials in 2012.

APPENDIX

1) Budget and Expenditures

2) Forms

- a. Information Form
- b. Application Form
- c. Participation Agreement
- d. Rules and Regulations Form

3) Schedule

4) Training Documents:

- a. Nedret ÖZTAN
- b. Gülgün TEZGİDER
- c. Öznur ACİCBE
- d. Selin SALMAN ENGİN
- e. Müjde KOCA ATABEY

5) Workshop Reports

- a. Women Workshop / Gülgün TEZGİDER
- b. Children Workshop / Selin SALMAN ENGİN and Aslı AYARÖZ
- c. Disability Workshop / Müjde KOCA ATABEY
- d. Displacement Workshop / Öznur ACİCBE

Mutual Guided Training of Psychologists in Disaster, Crisis and Trauma Psychology (EFPA, BRUSSELS)

How the project started:

The idea was already there in 2003 after the flood in Center and Eastern Europe when there were questions and requests from Eastern European colleagues to report on the models and systems in Austria, Germany and other countries. At the same time the EFPA group of Disaster and Crisis Psychology started networking and exchanging of experiences, contents and models.

In this situation the project plan was born and finally the following proposal was prepared by Eva Munker-Kramer in discussion with the task force (and later standing committee of EFPA) and changed, adapted between 2003 and 2008 several times.

Background

In the last ten years here have been various activities mostly in western European countries to establish a basic knowledge on disaster, crisis and trauma psychology and to built up first networks to be set on scene if needed. These attempts range from basic education already in the universities (above all Turkey and Scandinavian countries) to established networks and post-gradual trainings and the knowledge of disaster and crisis psychology in public and among psychologists themselves (e.g. Austria, Netherlands and again Scandinavia). It seems to be crucial to have official governmental structures (like CZ, B....), connections with NGOs (like Red Cross e.g. in Finland) and strong psychological associations with psychologists, who are experts in the field and able to help to develop consciousness concerning the importance of contributions of disaster and crisis psychology and psycho-traumatology and building up skills.

The EFPA SC establishes and exchanges these concepts, standards and skills within a part of EFPA-countries (A, B, D, E, F, GB, S, N, TR, I, L, GR, DK, SF) for 9 years now. It has brought together various reports as one on the work done after Tsunami in the affected European countries or a report on "lessons learned", which reflects the work done in the different countries after major disasters in a standardized way. Parts of this work and additional theoretical reflections have been the topic of presentations in symposia organized by the SC regularly in the European congresses of psychology. Several members of the SC are involved in either in working abroad to build up skills in other countries (e.g. Sri Lanka) in general or in Eastern European countries especially (e.g. Slovakia, Ukraine...).

Thus the SC has come to the decision to offer Eastern European countries useful and transferable parts of these concepts, contents and skills. The Council of Europe has accepted a project plan and offered support by financing practical trainings and know-how transfer.

After several discussions we agreed upon colleagues from LT, LV, EST, SR, PL, H, UA, RO, BG, SLO, HR, Bosnia-Herzegovina who are aware of disaster and crisis Psychology, who are in a position and interested to function as disseminators.

Aims

- support interested Eastern European countries with focused know how transfer in psycho-traumatology, disaster and crisis psychology and special interventions like CISM
- offer specialties later that are seen to be needed (children, acute trauma, ...)
- offer experience in building up useful and practical structures based on the national needs and backgrounds
- enable these experts to go on with new colleagues within the country themselves

Profile of the colleagues

There were long discussions about the question whom we should address and how many participants we should invite from each country. Finally we agreed upon two participants from each country and on the following profile.

This can be noticed by the list of participants we finally had in Vienna in August/September 2010. On one hand the clear profile made it difficult to find these persons (one reason for the small number of participants although the information and application phase was long) – on the other hand we did not want to go away from this profile because we are convinced that we had to have it like that as a group representing a European Psychological association.

Profile:

- psychologists
- with a mandate or at least be recommended from their national psychological associations (already expert in the field or) strong interest in the field and / or colleagues who are involved in work with affected people
- function where spreading of knowledge and skills is possible (contacts to the national psychological association and / or to governmental structures, public institutions ...)
- English speaking

- no “pure personal interest” or personal financial interest to be trained but the readiness to function as disseminators

Time frame

The plan (if we get funding by the CoE) is that the project should last for 2-2,5 years (details of the contents see below) after the initial workshop in 2010 which has taken place in Vienna. After the basic workshop with the below and later mentioned contents (basic training in disaster and crisis psychology and psycho-traumatology, acute trauma -early intervention) there should be focuses on specialties that are named by the participants following their situations and needs.

Additionally there should be support (mentoring, consulting) concerning strategies to set up standards and concepts (as the members of the SC did by exchanging with each other in the last 9 years).

After the initial workshop of 4,5 days the plan is to have about 3 days every 6 months (one day to reflect/supervision and two days with additional contents and/or exercise, to offer coaching“ and consulting via email in the meantime if needed

Composition of the team

The trainer/instructor team was composed by a group of psychologists from the EFPA Standing Committee on Disaster and Crisis Psychology with broad experience either in similar trainings in other countries, in building up structures (organizational psychology knowledge combined with disaster and crisis psychology or in special fields of disaster and crisis psychology). The basic workshop was conducted by Atle Dyregrov, Eva Munker-Kramer, Nuray Karanci and Jana Malikova.

In 2011 Anders Korsgaard and Ingeborg Porcar Becker stepped in additionally – Anders Korsgaard has long experience in establishing universal courses and post graduate programs in disaster and crisis psychology and we wanted this perspective to be brought in by an expert. Ingeborg Porcar Becker is establishing disaster and crisis psychology in an environment that is not yet so structured and thus can report excellently about the problems and challenges of such a situation and we wanted to present this to the participants to “meet them at their point as well”. The stable members: Eva Munker-Kramer and Jana Malikova stayed in 2011 as well to facilitate the developmental process and to help in the group and organizational development.

Expected result of the project:

We have skilled and trained colleagues within the countries to spread the knowledge based on national needs, structures and cultural specialties and we can address concrete persons if needed for border-crossing necessities and networking in disaster and crisis psychology.

After year 2011 we can say, that we reached our goals as far as we had them for the first 1,5 years. First they are able to define their concrete needs and possible and realistic roles and working areas. Some participants found their way to explore and to establish important pieces in the field in their country. After learning and presenting different styles and systems of providing psychosocial support they can decide which way want to go on. They drown a lot from meeting each other. They could easily imagine implementation process through sharing their own experience. They learnt who might meet from authorities and who address their needs and suggestions. Others, who are mostly situated in the academic field found patterns and hints to establish disaster and crisis psychology there.

The Recruiting phase:

Although the group is settled with a good spirit of group dynamics new members joined us, were welcomed, could be integrated and could add important information and perspectives. Some of the former participants were replaced by new members from their countries and were excused because of illness or serious reasons.

Finally we were supported by the EFPA head office in Brussels very strongly and the last concrete information letter can be found below in the annexes of this report.

Final attendants Workshop Vienna 2011

Finally there were 12 attendants from 7 countries. Viktor Kudriavtsev, from Ukraine could not come and Monika Ginzeriova from Slovakia in the September workshop could not attend because of health problems. She will be replaced by continuously. One important help for the participants was that due to the fact that we could save money in other areas of the budget (meals, room, technics, copies) we could support the participants with 200 Euros each for accommodation and travel expenses. We hope we can raise this sum in 2012 and will try to realize.

Bulgaria:

Denislava Georgieva, Bulgarian Psychological Society

Elena Blagoeva Pentcheva, Bulgarian Psychological Society

Croatia:

Zoran Simic, National Protection and Rescue Directorate of Croatia

Bernardia Franjic-Nadj, National Protection and Rescue Directorate of Croatia

Latvia:

Evelina Muze, Latvian Psychological Association

Lithuania:

Nida Zemaitiene, Lithuanian Psychological Association

Malta:

Bernard Caruana, Malta Union of Professional Psychologists

Slovakia:

Miroslava Zimanyiova, Modry Blue Angels

Petra Zemanova

Ukraine:

Oksana Nakonechna, Ukrainian Union of Psychotherapists

Viktor Kudriavtsev, EMDR Ukraine

Wawa Bazcynskyj, Catholic university Lvov

Russia:

Irina Eliseeva, EMERCOM

Schedules of workshops May and September 2011

Schedule for workshop no. 2 in Vienna, May 4-6, 2011

Wednesday, May 4

10.00 am – 12.30 am, Eva Münker-Kramer

- coming together again, opening
 - review of what has happened in countries, current situations
- 13.30 pm – 17.00 pm, Anders Korsgaard
- introduction of Danish system of providing psychosocial support
 - community psychology and disaster psychology

Thursday, May 5

9.00 am – 12.00 am, Anders Korsgaard

- all the global things before you do one-to-one support or group support to selected groups
 - what do decision makers need in emergency situations
- 13.00pm – 17.00pm, Anders Korsgaard
- how to build up disaster and crisis psychology within a country

Friday, May 6

9.00 am – 12.00 am, Jana Malikova

- action plans, transfer ideas/necessities (general and up to the first follow up) together with „mentors“
- work together
- feedback and good bye

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Schedule for workshop no. 3 in Vienna, September 7-9, 2011

Wednesday, September 7, 2011

10.00–12.00: Eva Münker-Kramer

- coming together again, opening
- review of what has happened in countries in the meantime, current situations

13.00–17.00: Ingeborg Porcar Becker

- disaster and crisis intervention in Spain – different local models, difficulties and aspects to discuss concerning transfer
- comparison to each country: are there useful points which can be transferred
- a case study: the train accident in Castelldefels on June 23, 2010
- group discussions: which have to be the key intervention issues, what is needed structurally

Thursday, September 8, 2011

09.00–12.00: Ingeborg Porcar Becker

- how was it done in Barcelona, Spain
- discussion in plenum: which are the lessons learned, what could be done better
- media – concrete cooperation and strategically use
- examples of good and bad practice

13.00–17.00: Ingeborg Porcar Becker

- some case studies coming from the countries - Starting to work on actions plans according to the exact roles each participant will/can take in the building up of Disaster and crisis psychology (disseminator, trainer, facilitator from the University, the Association, the individual professional role and background) – what was helpful up to now from seminars, what is still needed, transfer partners?
- questions and doubts

Friday, September 9, 2011

09.00–12.00: Jana Malikova

- action plans, transfer ideas/necessities (general and up to the first follow up) together with „mentors“
- presentations of national system of psychosocial support
- feedback and good bye

The trainers

1. Anders Korsgaard Christensen

The Danish representative, Anders Korsgaard Christensen, is Head of the Unit of Crisis Psychology at Rigshospitalet, Copenhagen University Hospital. Anders is a specialist and supervisor in Psychotraumatology, and has been at the Unit for the last 20 years.

Anders Korsgaard has been active in The Danish Psychological Association in creating and setting standards for the postgraduate training to become a specialist in Psychotraumatology. He does extensive teaching and workshops in Psychotraumatology both on a graduate and post graduate level. Anders has for several years been teaching Crisis and Disaster psychology at Copenhagen University. Unit of Crisis Psychology at Rigshospitalet offers help to traumatised individuals and groups, who have been exposed to sudden and often life threatening events. The trauma can be workplace trauma or sudden serious illness, often as a result of accidents or major incidents. Debriefing of the helper professions is also an integrated part of the work in Unit of Crisis Psychology. Unit of Crisis Psychology has a special obligation on a national level in case of disasters in Denmark or disasters concerning Danish citizens affected by disasters outside Denmark.

2. Ingeborg Porcar Becker

She is director of the Unit of Trauma, Crisis and Conflict of Barcelona. In addition to be accredited as an expert in emergency management, emergency and disaster, she is a specialized psychologist in clinical and educational psychology, as well as graduated mediator and family therapist.

She is associate professor of the Universidad Autónoma de Barcelona and has wide experience in training in subjects of crisis, grief and trauma, as well as in conflict management.

3. Jana Malikova

The representative for the Czech Republic, Mgr. Jana Malikova works in the Ministry of the Interior as a psychologist and is specialized in providing crisis intervention to police officers and rescue workers within the posttraumatic intervention care in Police of the Czech Republic.

Newly she is a member of a team to provide psychological first aid to the victims of crime. She focuses on forensic psychology and disaster and crisis psychology. She is a member of a psychology assistance team of the Czech airlines company.

She participates in training (preparation) members of crisis assistance teams of CSA and pre-dispatch preparation of experts working in the Ministry of Foreign Affairs. She leads help line established by Police. In case of a large disaster she participates in coordinating psychosocial activities and providing support to victims and affected people.

4. Eva Munker-Kramer

The Austrian representative Mag. Eva Muenker-Kramer is clinical psychologist, organizational psychologist, psychotherapist (BT, EMDR, traumatherapy), EMDR-consultant and facilitator, disaster and emergency psychologist. She works in a private practice and is partner in the EMDR-Institute Austria and Center of Applied Psychotraumatology Vienna. She lectures in the fields of clinical psychology, psychotraumatology, disaster and emergency psychology, traumatherapy, EMDR e.g. in the Academy of further Education of the Professional Association of Austrian Psychologists, in courses of the University of Vienna in cooperation with the Academy of Further Education in the General Hospital Vienna, in the Austrian Federal Railways Association, in the Austrian Fire Brigade Association, in the Austrian Red Cross, at Danube University Krems, the general hospital Vienna, and in numerous other areas. She is also author of journal and book articles in the above mentioned fields. She is chairperson of the Austrian Association of EMDR and an EMDR Europe approved EMDR trainer. She was co-founder and headed the Austrian Association of Disaster and Emergency Psychology (2000-2003) and was in the executive committee of the Professional Association of Austrian Psychologists (1993-2001). She is one of the founders of the Psycho-Social Team for Disasters and Emergencies Lower Austria, is member of the scientific committee of the post-graduate Academy of the Professional Association of Austrian Psychologists, member of the task force “Acute Trauma” of the German-speaking Association of Psychotraumatology and member of the Lower Austrian Ethics Committee by order the Lower Austrian Government.

Evaluations of the workshops - Feedback to content, trainers, time schedule, material, place and organization from participants.

Evaluation of the workshop 4 – 6 May 2011, Vienna

Positively evaluated: The participants mostly valued the opportunity to get know different style and system of providing psychosocial support in various country. They could hear how it works, about financial matters; they clarified who contact to, practical steps and experience. They appreciated discussion about Danish system and experience of Anders Korsgaard. To sum, they got a good example of one functional system and they are able to transfer some ideas to their countries. They were satisfied with organizing the workshop and as always be glad to meet nice people.

Dislike: Some of them felt that Danish system is too far from possibilities in their countries. They suggested hearing something closer to their condition and more real. They repeated the same thing twice. They didn't have program 2 weeks before beginning of the workshop.

Recommendation: They would like to hear presentations from present countries about the system of providing psychosocial support, to share experience from various types of disaster, to get learn more practical and concrete steps – how to do it – step by step and learn more about EMDR. From practical and organization matters – Internet access on site, materials on CDs or on flash disks. They were worried about certificate.

Wishes for next workshop:

The discussion raised an interesting point. Zoran suggested making up and bringing a new EU project with focus on increasing the awareness of trauma in government. They complained about their government and pointed out there is a lack of knowing needs of affected people and all those consequences. Everybody in the group agreed with this idea and I think this is very essential. Under these circumstances they wanted to have a discussion forum on EFPA website. A place to discuss with everybody in the group and prepare ideas of the project or to be in touch. if forum is not possible they want to talk about this via emails. They want to hear about their experience and positive experience with media next time.

Summary:

- Time to hear from each other their system of providing psychosocial support to affected people
- To hear good practice with media
- To share experience about different types of disaster
- Concrete steps
- EMDR technique

Action plans: Mostly they will be focused on lecturing and leading seminars (e.g. in schools) to continue with spreading information and knowledge they learnt in our workshops. Some want to contact authorities and try to develop awareness about the psychosocial aspects. Further to be in touch with media and organize a conference with priests and social workers, establish a committee on this field, a seminar to transmit knowledge, to contact The Red Cross in the country. To open discussion with potential coordinators (police or civil protection) and explore some knowledge.

Membership in SC: Mostly they are for being a member in the SC but they don't see it realistic, because of psychological association in their countries. Probably Nuray Karanci might to verify.

Evaluation of the workshop 7–9 September 2011, Vienna

Positively evaluated: The workshop participants were particularly appreciative of Ingeborg's input, which, to a large degree, focused on the practical point of view. She presented very useful and practical details describing the system of providing psychosocial. They appreciated it even if the situation is different in several countries. They thereafter found importance of good cooperation with medical service and dealing with media, and e.g. that it is important to be a part of 112 or to be in touch with. They have got a real picture how it could be organized (support of relatives and eyewitnesses, work with media and tricks for decision makers, etc.) after several discussions and sharing knowledge. They realized that they have to be proactive to do something and to get know each other in their countries in the field. They learnt small details which are necessary during the process and are essential for many of them. "Ingeborg made us to think".

They were very grateful for organizing and arranging the entire workshop and time they spent together, for Eva's and Jana's work and care.

Dislike: NONE

Recommendation: To collect and give participants a list of guidelines that will help to start organize the network in their countries. To share and focus on practical experience. Presentations to fit into the program and time schedule in advance. It would be interesting to do a role play or to watch movie of a sessions dealing with a traumatic crisis scene and discuss the provider's response and action. To be a part of practical training – develop skills.

Wishes for next workshop:

1) To focus on case studies and analyze a different type of disasters step by step. They would like to comment and discuss details about a disaster which has really happened. Examples – play role or videotapes, movies, case studies.

If so they prefer to hear about disasters like a bus or car accidents, flood, fire,... something casual not anything special like the attack in Norway. The case studies are not necessary to be from us, although it is more required but also it can be used from them (participants).

2) To learn how psychologists and rescue workers worked in Norway after the attack. To learn details about providing psychosocial care afterwards.

3) To learn details about recovery work and psychology service after a plane crash in Russia (the one with the ice hockey team in Jaroslavl)

4) Presentations from other countries, what they did – “action plans”.

5) They insist to get explanation of EFPA’s role before they would get the certificate. They need some kind of support or some clarification from EFPA, they have attended the workshop and EFPA is or EoC is behind their back and we are kind of support.

6) More intensive communication in meantime. To be clear EFPA’s requires - to establish psychosocial care in their countries –how to present it to their authorities.

Action plans – short term goals

Croatia

1. Establish “hot line” for emergency situations and large scale disasters.

2. Publish some articles in paper for general population about importance of psychological support related to crisis and disasters psychology. To increase awareness.

3. Start with education of psychology – volunteers that give support in mass casualty. Plan and conduct training for psychologists’ network.

4. Collaborate with psychologists who support relatives during identification of bodies.

Slovakia

1. Meet a working group within psychological association in these matters:

- competences of psychologists in crisis situations”
- education in the field
- network of psychologists within whole country
- authorities, Blue Angel, army, police
- law

2. Education

3. Activate cooperation with other emergency units

long term – to establish crisis center

Bulgaria

1. Finish local regulation and accreditation, which can provide FPA

2. Set up round table with colleagues and local authorities in Sofia to explain the needs of FPA network

3. Organize our colleagues’ forum under Bulgarian psychological association, department of crisis psychology to publish regulation

long term – to establish a crisis center in Sofia

Ukraine (Lvov region)

1. Finalize what sort of support will be provided for EURO 2012

2. training for coordinators

3. provide psychological support during event

long term – seek out appropriate personnel on city and regional levels, to which a psychological unit for crisis intervention and support (information/research/interviews)

- contact with media to present educational information and examples of trauma and its consequences

- work out possible cooperation with university in Lvov (lectures, seminars, round tables)

- research what exists in terms of legal terms – e.g. crisis situations create network of professionals to provide services

Russia

1. Develop of educational program in national state universities

2. Participation in national exhibitions and conferences

3. Educational program on TV for different groups of population.

4. Relationships with crisis psychological centers of Ministry of Healthcare to help emergency

Thanks and outlook

In our name (EFPA, EFPA Standing Committee of Disaster and Crisis Psychology) and in the name of the participants we again want to express our thanks to the European and Mediterranean Major Hazards Agreement (EUR-OPA) of the Council of Europe”, especially to Eladio Fernandez-Galliano and Linda Rollin for their help, positive support and patience that helped us to realize this motivating and fruitful project start!

All the papers we distributed carried the “funded by”.. EUR-OPA note and it was mentioned many times in the seminar. If needed we can add these papers individually (which are integrated in this report up to now (e.g. the questionnaire, the schedule, the evaluation, the letters...))

We’d appreciate if the project could be continued in 2012, we already settled a potential date for the May workshop and action plans until then. Additionally we arranged that the EFPA Standing Committee of Disaster and Crisis Psychology will meet in Vilnius organized by Nida Zemaitine in March 2012 to support the local activities that came out of our project. So the project is linked to broader activities as the goal was. We plan to do that more often.

Annex: Reflection and status quo Vienna, Sept., 7h, 2011, by Eva Munker-Kramer

1. What is/can be/will be my role concerning the dissemination of Disaster and Crisis Psychology in my country?
2. What do I need to fulfil it (from EFPA SC, the trainers, the colleagues...)?
3. What can I offer (experiences, ideas, flyers, models, tricks.....)?
4. How do I want to use this seminar?
5. With whom I want to share my plans?

First results, Sept., 7th, 2011, 11.00 am Areas of activity	Role, action
<i>Training (university for basic education and / or associations for post graduate education</i>	<ul style="list-style-type: none"> - rise awareness – workshop organizer - basic information - 1 day for colleagues - organizer / proposer of curricula - motivator for colleagues - organizer of trainings for more than one country to have synergy
<i>One to one support / group support on site</i>	
<i>Initiating networking</i>	<ul style="list-style-type: none"> - organizer within psychological associations - building consciousness starting as an initiative of national psychological organizations
<i>Aftercare one to one, groups</i>	
<i>Building up structures within governmental authorities</i>	<ul style="list-style-type: none"> - “searcher” for aspects to be integrated into legal codes - Fill existing legal codes with contents regarding psychological and psychosocial interventions / aspects
<i>Information / training of other professions</i>	<ul style="list-style-type: none"> - trainer for 112 – centres - organizer and conductor of special groups in special situations (e.g. championship) - initiator and conductor of a course for journalists (increase their awareness of PTSD risk)
<i>Publications / concepts</i>	<ul style="list-style-type: none"> - have access to media to place interviews and articles - distribute and initiate research - internet advisor section - publications e.g. in special magazines like magazines of the psychological associations fire brigade, health magazines