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

NETWORK OF SPECIALISED EURO-MEDITERRANEAN CENTRES

**ACTIVITIES SUPPORTED* WITHIN THE
COORDINATED PROJECTS FOR 2014-15**

* IMPORTANT REMARK

At this stage the projects are only supported for 2014: final support for 2015 will be confirmed after review of the actual results obtained in 2014.

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1.A. Assessment of events and population alert

Geophysical Monitoring of Landslides and Man-Made Structures - Search of Forerunners

CERG - European Centre for Seismic and Geomorphological Hazards (France)

DURATION : 2014 2015 2014 – 2015

TARGET COUNTRIES : France and Georgia (case study) but European applicability

PARTNERS INVOLVED :

COORDINATING CENTRE : CERG Strasbourg, France

OTHER CENTRES: GHHD Tbilisi, Georgia , , ,

OTHER PARTNERS : University of Strasbourg (UdS, J.-P. Malet, C. Doubre, P. Ulrich), Delft University of Technology (TUD, T.A. Bogaard), University of Brest, IUEM (C. Delacourt), University of Grenoble (ISterre, D. Jongmans)

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

Landslides are natural and complex phenomena affecting all types of geological formations and presenting a large variety of sizes, morphologies and displacement rates. Triggering and reactivation of landslides are controlled by meteorological factors (rainfalls, snow melting, freeze-thaw cycles), by earthquake ground shaking or by anthropogenic actions. Landslides in clay-rich formations, which are widely spread over the world, are characterized by still unpredictable acceleration and fluidization phases, generating rapid mass movements like mudflows and debris flows. Because of their suddenness, the occurrence of these events, which is primarily controlled by the groundwater conditions, is a serious threat for populations.

Recent results from permanently-installed geophysical devices on active landslides have shown that geophysical parameters could track rheological and hydrogeological changes in slopes. Geophysical monitoring thus opens new perspectives for locating, understanding and maybe predicting slope failure mechanisms. The main goal is thus to explore the capacities of geophysical techniques (and of the corresponding measured parameters) for defining forerunners of changes in the slope regime/man-made structures state, combining them together and with other (more classical) hydrogeological and geodetic techniques.

With this objective, active landslides (La Valette in France) and man-made structures (High dams in Georgia) already monitored will be instrumented with additional geophysical devices during three years.

The objectives of the project are:

- 1) To test the performance of the combination of the ground-based measurements of bulk variations in geophysical parameters before change in the kinematic regime, through the joint analysis of seismic, strain and resistivity data
- 2) To test the performance of remote sensing technologies (stereo-photogrammetry applied on satellite images and terrestrial photographs, InSAR radar images) for imaging the distribution of displacements and strain.
- 3) To understand the geophysical variations with regards to classical geodetic, meteorological and hydrogeological observations.
- 4) To build a logic-tree procedure for taking decisions on possible forecast of kinematic change or failure of the slope or or man-made structures (e.g. high

dams).

The proposed activity associates two specialised centres (CERG, GHHD). The expertise of contributing academic partners (see above) guarantees the success of the research activities as they are already working closely together within European Projects. Co-funding to the research will be made available by each of the partners.

Specific objectives :

2014 :

- 1) Collection and organization of the in-situ monitoring datasets at the test sites**
- 2) Organization of a dedicated field campaign in Georgia (2 weeks) and in France (2 weeks) for testing the monitoring of strain with Fiber Optic on respectively High Dams and the La Valette landslide. Interpretation of the data.**
- 3) Set up of an automated processing chain for the analysis of series of optical photographs for estimating the displacement and the strains. Comparisons with external sensor information.**
- 4) Workshop to define the logic tree procedure and identify the components of the decision support system (DSS)**

2015 :

- 1) Report (end-users, scientists) on the combined use of geophysical techniques for landslides and man-made structures monitoring. Proposition of an operational geophysical monitoring strategy.**
- 2) Development of the DSS system flexible for both landslide and man-made structures**

EXPECTED RESULTS

2014 : See below (activities)

2015 : See below (activities)

ASSOCIATED ACTIVITIES (split by partner)

2014 :

- 1) Organisation of a 2-days workshop to initiate the work (all partners)**
- 2) Organization of 2 periods of field campaigns (1 in Georgia, 1 in France) and multi-method field experiment (seismic, resistivity, fiber optic, cameras) (CERG, GHHD)**
- 3) Joint data interpretation (all partners)**
- 3) Development of a routine for automated processing photographs time series for change detection, and test of its performance against other data (CERG)**
- 4) 2-day workshop to design the component of the DSS system (CERG, GHHD)**

2015 :

- 1) Writing of the end user and science report and guidelines on the use of geophysical techniques for landslide and man-made structure monitoring.**
- 2) Development of the DSS system, and beta testing of the 2 case studies of France and Georgia.**
- 3) Organization of an intensive course on multi-method monitoring for early-warning. Dissemination of the DSS and guidelines to end users and scientists.**

RESULTS OBTAINED PREVIOUSLY (if any)

The proposed activity will take advantages of previous results obtained within the activity of CERG and GHHD members. It takes advantage of the initial results of the "Multi-sensor technologies for EWS of landslides and man-made structures" project (2012-2013) and will consolidate and end this research.

2014 WORK PACKAGES

CERG, STRASBOURG

Work package 1

Description: Workshop to initiate the work (CERG)

Associated deliverables: Conclusions of the workshop

Work package 2

Description: Collection and organization of the in-situ monitoring datasets at the test site in France

Associated deliverables: Organization of a dedicated field campaign in France (1 week) for testing the monitoring of strain with Fiber Optic on the La Valette landslide (CERG)

Work package 3

Description: Interpretation of the data collected in Georgia and France (CERG)

Associated deliverables: Report on the analysis of the data in the form of an easy to read leaflet for end users

Work package 4

Description: Set up of an automated processing chain for the analysis of series of optical photographs for estimating the displacement and the strains and comparison with external sensor information (CERG)

Associated deliverables: Development of a routine for automated processing and test of its performance against other data. Report on the analysis of the data in the form of an easy to read leaflet for end users

Work package 5

Description: Workshop to define the logic tree procedure and identify the components of the decision support system (DSS) (CERG)

Associated deliverables: Draft design of the DSS system

GHHD, Georgia

Work package 1

Description: Collection and organization of the in-situ monitoring datasets at the test site in Georgia for testing the monitoring of strain with Fiber Optic and Acoustic Sensors

Associated deliverables:

- i. Assembling and testing in Laboratory and Field of Acoustic Telemetric System for monitoring landslide activity
- ii. Field campaign on Gombori active landslide in Georgia using Fiber Optic and Acoustic Telemetric System for monitoring landslide activity

Work package 2

Description: Contribution of the interpretation of the data collected in Georgia and France (GHHD)

Associated deliverables:

Interpretation of results of the Field campaign on Gombori active landslide in Georgia using Fiber Optic and Acoustic Telemetric System for monitoring landslide activity and elaborating recommendations for creation of corresponding early warning system

Methodology for creation of the complex emergency alerting system

ECNTRM Moscow, Russian Federation

DURATION : <input type="checkbox"/> 2014 <input type="checkbox"/> 2015 <input checked="" type="checkbox"/> 2014 - 2015
Methodology of creation the complex emergency alerting system.
TARGET COUNTRIES : all
PARTNERS INVOLVED :
COORDINATING CENTRE : <i>ECNTRM Moscow, Russian Federation</i>
OTHER CENTRES: , , ,
OTHER PARTNERS : <i>Emercom of Russia</i>

OBJECTIVES OF THE PROJECT
<i>Global objective for 2014-2015 :</i>
To collect information about existing practicing alerting systems of the different levels (local, municipal, regional, federal) in the Agreement member-states with the description of the main principles. To make a digest book-collector representing these systems. Make comparative study and distribute it within the EUR-OPA member states as a common knowledge. This is very important to share best practices and promote creation of new systems and improve the existing ones. The book could be both used as a manual for the emergency managing specialists training and as a tool for decision-makers and authorities. The information should be submitted to ECNTRM by the interested centers in English with the possible visual material. Digest could be further on translated into different languages by the interested centers.
To develop software and technical decisions of the complex emergency alerting system, based on best practices, providing knowledge to decision-making community
<i>Specific objectives :</i>
2014 : <i>To collect the information on the existing different levels (local, municipal, regional, federal) alerting systems, make a digest draft</i>
2015 : <i>To analyse the information and prepare the digest in English</i>
EXPECTED RESULTS
2014 : <i>Digest draft</i>
2015 : <i>Digest in English that could be further on translated into different languages by the interested centers</i>
ASSOCIATED ACTIVITIES
(split by partner)
2014 : <i>invite all the interested centers to take part in the work with the financing to be splitted , to develop and send plan of the digest to all the interested centers</i>
2015 :
RESULTS OBTAINED PREVIOUSLY (if any)

2014 WORK PACKAGES

ECNTRM, Russian Federation

Work package 1

Description: Gathering and analysing the information about existing practicing alerting systems of the municipal level in Russia and Ukraine (probably Georgia, Armenia, and Azerbaijan). Development of proposals (further on methodology) for creating the complex emergency alerting system based on best practices.

Contribution to the care of a potential risk: heat waves

CRSTRA - Scientific and Technical Research Centre on Arid Regions (Algeria)

DURATION :	<input type="checkbox"/> 2014	<input type="checkbox"/> 2015	<input checked="" type="checkbox"/> 2014 – 2015
TARGET COUNTRIES:	Mediterranean region		
PARTNERS INVOLVED:	COORDINATING CENTRE: CRSTRA Biskra, Algeria		
	OTHER CENTRES:		
	OTHER PARTNERS : ONM/Météo		

OBJECTIVES OF THE PROJECT

Objectif global pour 2014-2015 :

Contribution to the mitigation of the impact of heat waves on populations in Mediterranean Region

Objectifs spécifiques :

2014 : Survey and organization of the database (and scenarios for last 50 years)

2015 :

EXPECTED RESULTS

2014 : Summary of achievements and better understanding of the risk

2015 : Mitigation measures (creation of a Mediterranean network risk)

ASSOCIATED ACTIVITIES

(split by partner)

2014 :

2015 :

RESULTS OBTAINED PREVIOUSLY (if any)

Creation of a Division devoted to major hazards

Previous research and training programme on climate related risks.

In recent decades, we are seeing some recurring heat waves throughout the Mediterranean region. If the south shore is traditionally affected the north shore is increasingly vulnerable. Heat waves experienced in Europe in 2003 culminated on the 12th of August when the temperature exceeded 40 ° C: it has spawned no less than 70 000 deaths, including 20 000 in France alone. In 2007, a few years later, on June 17 and July 26, temperatures reached 46 ° C causing 500 deaths in Hungary. On the other side of the Mediterranean, increased temperatures and spreading warm periods were formidable impact in more ways than one.

This phenomenon is a definite threat whose magnitude, recurrence and prediction of impacts are not accurately considered and/or evaluated. Such situation does not allow to provide management strategies to mitigate these socio-economic impacts and in particular the well-being of populations.

That is why we consider that the proposed creation of a database (temperature analysis, duration, frequency, impact, etc.) is a priority. This database, via regular monitoring and centralizing historical data, will provide management strategies and adaptation to adverse conditions. These strategies will focus on health, agriculture and habitats urban) segments, environmental (green space, energy, food habits and clothing, miscellaneous equipment places to live.

2014 WORK PACKAGES

CRSTRA, ALGERIA

Work package 1

Description: Collecte de données climatiques concernant l'Algérie

- *Associated deliverables:* Collecte des données des températures concernant l'Algérie au cours des 50 dernières années en milieu aride
- Constitution d'une base de données et traitement des données historiques pour les milieux arides
- Sur le long terme, développement d'un système d'alerte aux canicules et de prise de mesures et de prise en charge.

Work package 2 (prepared by CRSTRA):

Description: Organisation d'une base de données concernant les pays participants

Associated deliverables: Le plus grand effort d'échantillonnage concerne les données algériennes et qui couvrent les 50 dernières années.

2.A. Knowledge diffusion

RISK-EUR-OPA Web resource centre (*Activity postponed to 2015/ Activité reportée au 2015*)

ISPU – Higher Institute of Emergency Planning (Belgium)

Proposals for activities 2014-2015

DURATION: 2014-2015

DESCRIPTION :

Sharing of good practices concerning 'risk assessments' between the members of EUR-OPA both on national as on local level. This project also aims to improve the knowledge about tools of risk assessment (for local, national and regional level) based on experiences outside the area of the members of EUR-OPA. An analysis of the needs for a specific tool about sharing this information shall be performed by means of this study. The project shall also take into account the priorities and evolutions of the Hyogo Framework of Action, more specific the priority actions 1, 2 and 3 (prioritization of DRR, identifying risks and using knowledge and innovation to build resilience). By means of stimulating regional risk assessment, this project will contribute to the prioritization within the discussions for the next framework of action (post Hyogo). The project shall also be linked to the initiative within the European Commission to draft guidelines on risk assessment.

The exchange of information shall also give impulses towards a macro-regional risk assessment (like for example www.14point3.eu in the Baltic Region or SEERISK in the Danube Region).

The ISPU collects and disseminates information on the various methodologies used in the EUR-OPA member states and EU member states to identify, assess and reduce risk. These methodologies will be published on a separate part of the website www.ispu.eu

The website www.ispu.eu can also facilitate any relevant questionnaire in this domain (as it is the case for "landslides" in 2013).

ENVISAGED COUNTRIES :

All members

PARTNERS INVOLVED :

COORDINATION CENTRES : to be decided

OTHER CENTRES : to be decided

OTHER PARTNERS : Federal Public Service Home Affairs, DG Crisis Centre, other European countries who can present good practices (NO, UK, SE, FI, ...)

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

Reinforce the capacity of member states to realize risk assessments (as has been asked by the Hyogo Framework of Action), on local, national and regional level.

To inform the EUR-OPA partners (Permanent Correspondents and Specialized Centres) about different existing methodologies to identify, assess and reduce risk in the EUR-OPA and EU member states.

Specific objectives:

2014 : Perform a study related to the methodology of 'risk assessment' (taking into account the HFA) in different member states and organize two workshops for the EUR-OPA members (and invite external experts).

Development of a new module on the website www.ispu.eu in order to be able to start an online repository (an online resource of methodologies).

Contact and collect the EUR-OPA member states in order to share their methodologies for risk assessment and/or reduction.

2015 : Study the possibilities and opportunities for a macro-regional risk assessment.

Analysis and categorization of the received documents.

Publication in a logical structure on www.ispu.eu

Give the EUR-OPA member states to organize an online questionnaire on a topic which is relevant for their work field.

INTENDED RESULTS

Improving the knowledge of risk assessment. To start-up a macro-regional risk assessment.

To build a resource centre for risk assessment methodologies. This will give EUR-OPA members the opportunity to share and learn from each other and other EU members in order to reduce risks. (Risk identification and assessment being the first essential steps towards risk reduction.)

ASSOCIATED ACTIVITIES

To be decided.

Collecting the methodologies and organizing a new online questionnaire might also provide an important input to the online catalogue of best practices on www.ispu.eu

OBTAINED RESULTS (if relevant)

To be decided.

ISPU can build on the structure and expertise developed in the previous stages of the www.ispu.eu development.

Fire Management in Natural and Cultural Heritage Sites and other Protected Areas

GFMC - The Global Fire Monitoring Centre (Germany)

DURATION :

2014

2015

2014 – 2015

TARGET COUNTRIES : CoE Member States and Global, Greece

PARTNERS INVOLVED :

COORDINATING CENTRE : *GFMC Freiburg, Germany*

OTHER CENTRES: , , /

OTHER PARTNERS : *Democritus University of Thrace, Department of Forestry and Natural Resources Management, Orestiada, Greece.*

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

World Heritage Sites and other protected areas can be classified with regards to vulnerability, adaptation or dependence on fire. Until now there is limited to none systematic assessment of the negative role of fire, i.e., the threats or already existing degradation / destruction by wildfires, or the positive role of fire in maintaining and stabilizing World Heritage Sites and other protected areas globally; or a requirement of a fire management component. This is rather difficult to understand since World Heritage Sites and many other protected areas globally have been severely affected by wildfires over the last years and have severely affected unique ecosystems and biodiversity. For instance, the Garajonay National Park (Canary Islands, Spain), inscribed on UNESCO's World Heritage List in 1986, an extremely rare example of the humid sub-tropical forest that covered most of Europe before the arrival of humans has been affected severely by wildfires. Equally at risk is La Gomera which was named a Biosphere Reserve under the UNESCO Man and the Biosphere Programme in 2013. Other properties in Spain, such as Teide National Park, or most recently Doñana National Park, have also been affected by wildfires. There was also concern for the World Heritage properties of Mount Athos and Nea Moni Monastery, Chios island in Greece, and Laurisilva of Madeira, in Portugal.

The objective of this proposal is to satisfy, (a) the demand for information on the State of Fire Management in Heritage Sites, and (b) to develop a model analyze the spatial variation of fire risk in a pilot area, the Mt. Athos area, Greece. Mt Athos covers an area of 340 square kilometers and includes 20 monasteries, 12 skites, and about 700 houses, cells and hermitages inhabited by some 1700 monks protected by UNESCO World Heritage that are increasingly threatened by wildfires. We plan to use (a) high-resolution satellite imagery, ground truth fuel sampling methods to identify the vegetation characteristics with regards to wildfire hazard (i.e., fuel inventory) and (b) landscape fire behavior simulations to estimate fine scale burn probabilities, fire effects, and fire sizes under different weather and burn conditions. Several simulations will be performed with two dynamic fire models: FlamMap and Minimum Travel Time (MTT) in order to map the spatial pattern of fire risk and to assess the effect of weather on fire spread, burn probability, fire effects, fire size and risk to structures (monasteries, houses and hermitages). The resulting fire risk maps will be intersected with maps of structure locations and forest fuel types. Finally, landscape fuel treatments will be proposed in order to mitigate fire risk and effects in the area.

This approach will offer a model of wildfire risk assessment and will incorporate landscape effects of large wildfire spread. The results will reveal spatial variation

in fire risk factors that is useful in prioritizing fuel treatments and guiding other wildfire risk management activities in Mt. Athos peninsula.

Specific objectives :

2014 : (a) Through a CoE-wide / global survey to obtain a first database on the status of wildfire threats and fire management in UNESCO World Heritage Sites, (b) develop and apply fuel models, fuel mapping, fire risk simulations to assess the specific wildfire threat in the selected World Heritage Site Mt. Athos, Greece, and (c) to disseminate the approach at international level

2015 : Organize a regional conference on fire management in UNESCO World Heritage Sites and other protected areas in Europe, with inputs from other regions. Objective: Initiate proactive planning of fire management in protected areas

EXPECTED RESULTS

2014 : (1) Study "Fire Management in Protected Areas and Cultural and Natural Heritage Sites" finalized; (2) Landscape-level fire risk assessment methodology demonstrated in Mt. Athos Cultural Heritage Site, (3) Report to the IUCN World Parks Congress (November 2013)

2015 : Presentation of the final product of a publication (ENG) "Assessing wildfire risk in UNESCO World Heritage Protected Sites: The case of Mt. Athos" at, and organization of an international conference on "Fire Management in Nature Conservation, Protected Areas, Cultural and Natural Heritage Sites of Europe" (at Mt. Athos, Greece, or other site t.b.d.)

ASSOCIATED ACTIVITIES (split by partner)

2014 : 1) Fuel and UNESCO structures mapping in Mt. Athos - 1st Interim Report (GFMC with Democritus University of Thrace)

2) Interim evaluation workshop "Fire Management in Protected Areas and Cultural and Natural Heritage Sites" - Report on the results (GFMC)

3) Fire risk in Mt. Athos - 2nd Interim Report (GFMC with Democritus University of Thrace)

4) Presentation of preliminary results at the IUCN World Parks Congress, 12-19 November 2014, Sydney, Australia (GFMC)

2015 : 1) "Assessing wildfire risk in UNESCO World Heritage Protected Sites: The case of Mt. Athos" Final publication (GFMC)

2) International Conference on "Fire Management in Nature Conservation, Protected Areas, Cultural and Natural Heritage Sites of Europe" (GFMC)

RESULTS OBTAINED PREVIOUSLY (if any)

General expertise available. Mediterranean: Democritus University of Thrace, Department of Forestry and Natural Resources Management, Orestiada, Greece, and GFMC expertise in devising fire management approaches in countries worldwide.

2014 WORK PACKAGE

GFMC, Germany

Work package 1

Description: Survey of the members states heritage sites threatened by forest fires and their fire management

Associated deliverables: Study "Fire Management in Protected Areas and Cultural and Natural Heritage Sites"

Work package 2

Description: Pilot project in Greece

Associated deliverables: Landscape-level fire risk assessment methodology demonstrated in Mt. Athos Cultural Heritage Site

Contribution to fundamental studies in seismic, seismo-tectonic and seismo-volcanic processes

ECGS - European Centre for Geodynamics and Seismology (Luxembourg)

DUREE : 2014 2015 2014 – 2015

PAYS VISES: Tous les pays intéressés de l'accord, Japon, Democratic Republic of Congo, Rwanda

PARTENAIRES IMPLIQUES :

CENTRE COORDINATEUR : ECGS Walferdange, Luxembourg

AUTRES CENTRES: / / /

AUTRES PARTENAIRES :

Musée national d'histoire naturelle Mnhn (Luxembourg)

GFZ German Research Center for Geosciences (Germany)

Royal Museum for Central Africa Mrac (Belgium)

Earthquake Research Institute, The University of Tokyo (Japan)

Boise State University (USA)

OBJECTIFS DU PROJET

Objectif global pour 2014-2015 :

Since its creation in 1988, ECGS's contribution to the aims of the EUR-OPA Major Hazards agreement traditionally consisted in high-impact fundamental research and education activities. During the past funding period (2012-2013), these activities included among others:

- The 2012 ECGS workshop "Earthquake source physics on various scales", bringing together more than 100 participants from 22 countries to discuss the current state of knowledge on earthquake source physics.
- A detailed study on the variability of earthquake stress release in Japan, published in the journal Earth and Planetary Science Letters. Such variations are of key importance for successful ground motion prediction during future potentially hazardous earthquakes.
- A detailed study of the field mission data acquired in September 2011 at the volcano Nyiragongo in the Democratic Republic of Congo (DRC). These data enabled us to significantly improve our knowledge of typical phenomena related to the activity of Nyiragongo's permanent lava lake and represent the basis for the definition of future scientific activities in the region.
- Station installation and infrastructural improvements of the Luxembourg seismic network.

In the funding period 2014-2015, ECGS plans to continue and extend these research activities, which contribute to the fundamental understanding of the phenomena that need to be taken into account in any state-of-the-art hazard and risk assessment for earthquakes and volcanic activity.

Objectifs spécifiques :

2014 :

During the 2014-2015 funding period, we will continue to further develop the research programme in the above-mentioned topics.

ECGS has now a very strong and internationally recognized experience with Japanese strong motion data and the source physics of these earthquakes. ECGS scientists have published four articles in peer-reviewed journals on this topic thus

far. Besides the already existing fruitful collaboration with the GFZ German Research Centre for Geosciences, which is of course still continued, Dr. Adrien Oth will also spend three months as a visiting researcher at the well-respected Earthquake Research Institute (ERI) of the University of Tokyo in 2014. The collaboration with the Japanese colleagues aims to shed light on the aspect of how the recognized variability in earthquake stress release translates into the variability of actually observed strong ground motion parameters. For this purpose, we will study regression models of recorded past ground motions as well as macroseismic intensity observations of particular major earthquakes, and use these datasets to compare the variability observed in these parameters with the variability related to the seismic sources. Understanding how strongly the ground motion variability depends on source parameters variability is of key importance for ground motion prediction. The work on this topic will of course extend beyond this three months period, and the stay at ERI will allow to create the basis for a lasting cooperation between ECGS and ERI, which is an extraordinary experienced partner for future ground motion studies.

In the past two years, considerable developments have also been achieved in the another major area of research at ECGS, i.e., the study of the volcano-tectonic characteristics of the Virunga Volcanic Province in the bordering region of the Democratic Republic of Congo (DRC) and Rwanda. Specifically, two of the most active volcanoes in Africa are the principal target of these studies, Nyamulagira and Nyiragongo. In September 2011, scientists of Mnhn, Mrac and ECGS carried out a scientific expedition to the summit of Nyiragongo in order to collect field data that may provide insights into the dynamics of the still poorly understood magmatic system of this volcano. These data have been analyzed in the past funding period to get insights into typical signals emitted by the volcano (e.g., seismic signals), but a range of analysis activities still remain to be applied to this dataset. Furthermore, a broadband seismic station has been installed in April 2013 at the Volcanic Observatory of Goma in order to have at least one station with continuous seismic recordings in this region haunted by severe political conflict and insecurity. This station has been supplemented with an array of infrasound sensors provided by the colleagues of the Boise State University in September 2013. This combination of seismic and infrasound sensors holds the potential to significantly improve our understanding of the seismo-acoustic signals related to the volcanic activity in the region, which is a fundamental pre-requisite for a knowledge-based assessment of the state of activity of Nyiragongo volcano. Eventually, the combination of the insights obtained from the dataset collected during the September 2011 field mission and the information gained from the continuous seismic and infrasound monitoring in Goma will also help in defining the goals and tools required for future work (and field missions).

Finally, a third important aspect in ECGS's activities in 2014-2015 will focus on the further development of the seismic network in Luxembourg. We are currently working towards a robust, (semi-) permanent installation of our seismic stations acquired over the past years, and on the development of the necessary real-time data transmission infrastructure. Since budgets for these purposes are however severely limited, we needed to adopt a step-by-step approach in the development of this seismic network. For this reason, these activities will stretch at least over the entire 2014-2015 funding period.

2015 : see above

RESULTATS ESPERES

2014 : see above

2015 : see above

ACTIVITES ASSOCIEES (reparties par partenaire)

2014 : see above

2015 : see above

RESULTATS OBTENUS PRECEDEMMENT (si pertinent)

The proposed activities for 2014-2015 are continuing efforts based on the results obtained during the 2012-2013 period:

- Earthquake stress release variability in Japan
- Characterization of the seismic (and other) signals recorded during the September 2011 field mission to Nyiragongo Volcano
- Temporary seismic network presently running in Luxembourg

2014 WORK PACKAGE

ECGS, Luxembourg

Work package 1 (prepared by ECGS, Walferdange, Luxembourg): Study on the source contribution to ground motion observations

Description: In the framework of this work package, we will investigate if and how strongly the characteristics of the earthquake source process translate directly into earthquake ground motion variability, with main focus on the earthquake's stress release and radiated energy. In particular, we will study regression models of ground motion observations throughout Japan, and the usage of seismic intensity observations is also planned in collaboration with the Earthquake Research Institute at the University of Tokyo, Japan, where Dr. Adrien Oth will spend three months as visiting researcher (April-June 2014). With this study, we intend to better understand the discrepancies that were noted between the observed between-event variability of ground motions and the earthquake stress release variability as determined from several studies. Understanding this discrepancy is very important, as it plays a major role in assessing the potential ground motion levels from future damaging earthquakes. A part of the financial support of the EUR-OPA Major Hazards Agreement for 2014 will be used for travel to an important conference during this research stay, the Seismological Society of America (SSA) Annual Meeting in Anchorage, Alaska. The attendance of this meeting will allow Dr. Oth to exchange views on the subject with his peers, which is an essential process.

Associated deliverables: The associated deliverable will consist in a report on the results of this work which will be submitted by 30 November 2014, as required by article 2c of the administrative agreement. In addition, scientific publications stemming from this project will acknowledge the support of the EUR-OPA Major Hazards Agreement.

Work package 2 (prepared by ECGS, Walferdange, Luxembourg): Installation of an additional seismic station in Luxembourg

Description: This work package aims at working towards the setting up of the first nation-wide seismic network in Luxembourg. The remaining funds provided by the EUR-OPA Major Hazards Agreement for 2014 will be used for acquiring a seismic sensor.

Associated deliverables: the associated deliverable will consist in an installed seismic station, which will be part of the Luxembourg Seismic Network managed by ECGS.

Knowledge diffusion on nuclear safety based on Booklet "Basic Knowledge of Nuclear Hazards: Lessons from Chernobyl and Fukushima"

TESEC – European Centre of Technological Safety (Ukraine)

DURATION :	<input type="checkbox"/> 2014	<input type="checkbox"/> 2015	<input checked="" type="checkbox"/> 2014 – 2015
TARGET COUNTRIES :	All member-states		
PARTNERS INVOLVED :	COORDINATING CENTRE : TESEC Kiev, Ukraine OTHER CENTRES: CEPRIS Rabat, Morocco , ECNTRM Moscow, Russian Federation , CEMEC San Marino , ECRP Sofia, Bulgaria OTHER PARTNERS : Armenia, Azerbaijan, Georgia, Moldova, IAEA, UNESCO		

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

Using knowledge to reduce vulnerability of people against nuclear hazards

Specific objectives :

2014 : To organizing regional seminar for trainers, national and regional authorities, journalists, decision makers and others in Russia (in Russian), Morocco (in Arabian), San-Marino (in English). Organizing national seminars in Armenia, Azerbaijan, Georgia, Moldova, Ukraine for national and regional authorities, journalists, decision makers and others

2015 : Deployment in member-states tool for dissemination basic knowledge about nuclear hazards

EXPECTED RESULTS

2014 : Regional seminar for trainers, national and regional authorities, journalists, decision makers and others in Russia (in Russian), Morocco (in Arabian), San-Marino (in English). National seminars in Armenia, Azerbaijan, Georgia, Moldova, Ukraine for national and regional authorities, journalists, decision makers and others. Diffusion of knowledge.

2015 : Tool, trainers for dissemination of basic knowledge about nuclear hazards will be created

ASSOCIATED ACTIVITIES

(split by partner)

2014 : To organizing regional seminar for trainers, national and regional authorities, journalists, decision makers and others in Russia (in Russian), Morocco (in Arabian), San-Marino (in English). Organizing national seminars in Armenia, Azerbaijan, Georgia, Moldova, Ukraine for national and regional authorities, journalists, decision makers and others

2015 : Agreements with national authorities on using Booklet for dissemination knowledge on nuclear hazards on permanent basis - for all partners

RESULTS OBTAINED PREVIOUSLY (if any)

Internationally validated Booklet in 10 languages has been developed, translated, validated and published

2014 WORK PACKAGES

TESEC, Ukraine

Work package 1 Description: Technical support of the regional seminars

Associated deliverables: Development proposals for better informing the population in the case of nuclear or radiological accidents

CEMEC, San Marino

Description: Regional seminar in English to diffuse nuclear safety knowledge among concerned actors

Associated deliverables: Report of the regional seminar and comments.

CEPRIS, Maroc

Work package 1

Description: Regional seminar in Arabian to diffuse nuclear safety knowledge among concerned actors

Associated deliverables: Report of the regional seminar and comments

ECNTRM, Moscow

Description: Regional seminar in Russian to diffuse nuclear safety knowledge among concerned actors

Associated deliverables: Report of the regional seminar and comments

2.B. Risk identification and vulnerability

Vulnerability assessment of Historical Centers or Towns and safe evacuation in case of an Earthquake

ECPFE Athens, Greece

DURATION :	<input checked="" type="checkbox"/> 2014	<input checked="" type="checkbox"/> 2015	<input checked="" type="checkbox"/> 2014 - 2015
TARGET COUNTRIES :	Greece, Bulgaria, Romania, FYROM, Armenia		
PARTNERS INVOLVED :	COORDINATING CENTRE : ECPFE Athens, Greece		
	OTHER CENTRES: ECRP Sofia, Bulgaria , ECBR Bucharest, Romania , ECILS Skopje, FYROM , CUEBC Ravello, Italy		
	OTHER PARTNERS : ECRM Yerevan, Armenia, ECCE, European Council of Civil Engineers		

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

The monuments of the areas addressed by this proposal were the product of civilizations that had a significant impact on the Mediterranean, Balkan and European history and culture. Within this activity , cultural heritage will be protected, strengthened, and promoted. Moreover the protection of human life when visiting these Monuments is of great importance. Common problems that affect historical centers or towns are related concerning their protection and their need for upgrade, in all countries, as the seismic activity, the action of environmental factors on the structural materials, and time degradation and safe visitability. It is not easy to tackle these problems within the borders of a country and therefore there is a need for joint mitigation of their catastrophic consequences. There are many methods for this purpose. The main objective of this proposal is the achievement of convergence between the activities and methods related to the protection and promotion of the monument stock, as well as the safe evacuation especially in high tourist periods, in all countries involved, through joint implementation. Economic development and the facilitation of target sectors involved: the construction sector with workmen, technicians and commerce, the scientific sector with Archaeologists, Designers, Architects, Civil Engineers, and other Engineers and Restorers and the sector of tourism, with easy investments and without any risk of invested capital through utilization of existing infrastructures initially and possibility of larger investments at later stages. For these reasons, these Historical Centers or Towns will become attractive places for investment and employment.

Specific objectives :

2014 : 1. Selection of a Historical Town with rich monumental stock in each Country.

2. Assessment of the Vulnerability of the Historical Center/Town

2.1. The development of a methodology of a two-stage preseismic control of the Monuments, based on previous preseismic controls , carried out by EPPO, adapted to Monuments.

The two-stage preseismic control of the Monuments, sited in the whole area will be carried out as follows :

- the syntax of the forms in electronic format for a two-stage preismic control concerning the Historical Center-Town
- The development of a proper algorithm for the assessment of the vulnerability of each Monument of the region ,so as to be ranked according to criteria, such as historic-architectural importance, hazard, restoration budget demanded.

- The forms with the recorded rapid structural assessment records will be entered to a database created for this reason.**
- Finally, a seismicity monitoring network will be installed.**

2.2 The implementation of a pilot study in a selected monument of the historical center or town

- A Characteristic Monument of the Area will be selected according to its value, its high vulnerability and for its representativeness amongst others. A pilot study will be elaborated including experimental and analytical results as follows :**

Fully permanent instrumentation of this monument for continuous monitoring and response, for the experimental stage of the study.

High-level modelling techniques will be applied for the inelastic properties of structural elements of monuments , for the analytical stage of the study.

- Correlation of experimental and analytical results with critical provisions of the forthcoming Greek Code or other related codes of the involved countries for Interventions on Monuments and suggestions for revisions.**

2015 : .The development of a software application for safe evacuation of the whole area in case of an Earthquake taking into account the previous results.

This is a very useful tool especially in high tourist period when a congestion of people visiting the place occurs.

Escape routes need to be clearly signed and special provision must be taken into account for people with disabilities.

For this reason drills must be organized for testing the method and staff training.

2.Organizati on of a Seminar within the Stakeholders in order to present the goals achieved .

3.Dissemination of project outputs through Internet facilities to the general public (including tourists), Technicians, Engineers , Archaeologists, public institutions, thus assisting the increase of employment

EXPECTED RESULTS

2014 : The development of a Methodology of a two-stage preseismic control of the Monuments, the design and production of records for the preseismic control , the relevant algorithm as well as the Data Base , will serve also as a tool for future applications in other regions.

The pilot Case Study will contribute to the forthcoming Greek Code and to other Codes of the Countries involved, for Interventions on Monuments.

2015 : The design and production of a software application for the safe evacuation of the Historical Center/Town will also serve for future applications.

**ASSOCIATED ACTIVITIES
(split by partner)**

2014 :

2015 :

RESULTS OBTAINED PREVIOUSLY (if any)

ECPFE and EPP0 have been activated in the Sector of Earthquake Protection of Cultural Heritage both in National and Tran European level , with the contribution of the Ministry of Culture and Tourism , the EC of Ravello(CUEBC), Skopie(ECILS), Bulgaria(ECRP), Romania(ECBR), Portugal (CERU), Armenia(ECRM) and the European Council of Civil Engineers (ECCE).

More specifically ECPFE has organized :

Seminars :

1.Two-day meeting entitled "Aseismic Interventions to Monuments and Historic Settlements" in

Athens on 16-17 February 2006.

2.Two-day meeting entitled “Strategies towards Seismic Protection of Monuments” in Athens on 26-27, February 2009.

3.Seminar concerning “Seismic Protection of Monuments”, in Athens on 2-3 December 2013

Training Seminars :

1.Training course entitled “Seismic Risk Assessment in Specific Areas with Monumental Structures” by EPPO and ECPFE in Athens on 6-10 December 2010. 2.Seminar entitled “The Protection of the Integrity of Monuments under Seismic Actions” in Thessaloniki on 3-5 November 2011.

Publications:

1. Geotechnical Issues and Issues of Soil – Monuments Interaction, NTUA, G.Bouckovalas, 2009, in Greek

2.Draft Regulatory Document , NTUA, Th.Tassios ,2010, in Greek

3.Draft Framework Regulatory Document for Structural Interventions and Seismic Protection of Monuments, E.Vintzilaiou, N.Miltiadou, F.Karantoni, 2011, in English

4.State Of The Art Report For The Analysis Methods For Unreinforced Masonry Heritage Structures And Monuments , S. J. Pantazopoulou, 2013 in English

Other

A preseismic control of Public buildings and Well Fare Institutions is under elaboration by EPPO , from 2001.

In Greece the national network of accelerographs , (Competent Authorities :EPPO & the National Observatory of Athens),is upgraded and with the collaboration and guidance of the Ministry of Culture a lot of Monuments are instrumented.

EPPO is being developing Software for the Seismic Hazard estimation of an Area according to Seismic Scenarios and other geomorphologic factors .

2014 WORK PACKAGES

ECPFE, Greece

The City of Nafplio, the first capital of Greece after its independence, a City with a lot of Masonry Historical buildings, is selected as the case study.

Work package 1

1.1.The development of a methodology for pre-earthquake assessment of Historical Masonry Structures and based on previous extended work, carried out by EPPO, in English, including specific algorithm to facilitate the results.

1.2.The pre-earthquake assessment of the Monuments, sited in the whole area will be carried out as follows :

Design of preseismic assessment to collect appropriate building data, necessary for the application of the above methodology.

Work package 2

2.Selection of a sample of 36 buildings representative of the historical building stock of the city center of Nafplio

Work package 3 3.Validation of the Methodology and pilot application on 4 buildings out of 36.

Work package 4

4. A special meeting will take place between the partners in order to get aware of the above mentioned preseismic assessment methodology and exchange experiences .

CUEBC, Italy

Description: Selection of a Historical Town with rich monumental stock

Associated deliverables: A short tutorial for a preliminary rapid assessment of historical built-up areas vulnerability

ECRP, Bulgaria

Work package 1

Description: Collect and analyse the best national experience of emergency planning in the case of man-made natural disasters, with a focus to public information and involvement in decision-making, taken into account special measures for people with disabilities, children, the elderly, tourists, migrants and other groups of population.

Associated deliverables: Report sent to the coordinator.

Methodology for Distance Automatic On-line Monitoring of Buildings and Engineering Construction Frames

ECNTRM Moscow, Russian Federation

DURATION :	<input type="checkbox"/> 2014	<input type="checkbox"/> 2015	<input checked="" type="checkbox"/> 2014 - 2015
LINE OF ACTION:			
TITLE OF THE PROJECT :	Methodology for Distance Automatic On-line Monitoring of Buildings and Engineering Construction Frames		
TARGET COUNTRIES :	all		
PARTNERS INVOLVED :			
COORDINATING CENTRE :	<i>ECNTRM Moscow, Russian Federation</i>		
OTHER CENTRES:	, , ,		
OTHER PARTNERS :	<i>Emercom of Russia</i>		

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

During the 2008-2010 period ECNTRM was developing Methodology for Distance Automatic On-line Monitoring of Buildings and Engineering Construction Frames. The work was done and the methodology is now successfully implementing in the Russian Federation.

According to the recommendations of the EUR-OPA Major Hazards Agreement auditors in order to present the work being done with the help of the Agreement thus publicise the results and raise visibility we plan to make a brochure with the description of the Methodology, translate it into different native languages for further distribution among the member states. We consider it very important to share knowledge that should be used to reduce vulnerability.

Specific objectives :

2014 : To prepare Brochure layout in Russian, translate it in English

2015 : To accomplish the work on the brochure, popularize it through the publications in media and Agreement's web site as a EUR-OPA product , translate the Brochure in national languages of EUR-OPA member-states for further presentation in their countries

EXPECTED RESULTS

2014 : Brochure draft in English

2015 : Brochure in English

ASSOCIATED ACTIVITIES

(split by partner)

2014 :

2015 : translation of the brochure into different languages of the EUR-OPA member-states. Financing could be split by partners who are interested in translation and publishing of the brochure

RESULTS OBTAINED PREVIOUSLY (if any)

2014 WORK PACKAGES

ECNTRM, Russian Federation

Work package 1 (prepared by ECNTRM)

Description: To prepare Brochure layout “Methodology for Distance Automatic On-line Monitoring of Buildings and Engineering Construction Frames” in Russian, translate it into English

2.C. Impact of climate change and environment

European Landslide Hazard Mapping: Integration of Triggering Factors

CERG - European Centre for Seismic and Geomorphological Hazards (France)

DURATION :

 2014 2015 2014 – 2015

TARGET COUNTRIES : Europe continental level, and Georgia, Romania, France, Morocco and Ethiopia

PARTNERS INVOLVED :

COORDINATING CENTRE : *CERG Strasbourg, France*

OTHER CENTRES: *GHHD Tbilisi, Georgia , CEPRIS Rabat, Morocco , ISPU Florival, Belgium*

OTHER PARTNERS : *University of Strasbourg (UdS, J.-P. Malet, A. Puissant), IGRA (M. Micu), Joint Research Centre (JRC, J. Hervàs), German Geological Survey (BGR, A. Günther), National Research Council, Research Institute for Hydrogeological Protection (CNR-IRPI, P. Reichenbach), Ethiopian GeoSurvey (Addis Abeba)*

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

In 2013, the first version of the European Landslide Susceptibility map (ELSUS1000) has been released through a partnership among the JRC, the BGRn, the CNR-IRPI, the CNRS and the CERG/Council of Europe. The map delineates susceptibility classes for all types of landslides at a coarse resolution (1 km) using three spatial criteria related to landslide susceptibility: terrain gradient (e.g. slope), shallow subsurface lithology, and land cover. It is based on a climate-physiographic terrain differentiation, and the susceptibility assessment consists of heuristic spatial multicriteria evaluations performed separately for each model zone.

The map is currently being reviewed by a serie of 60 national experts in terms of location and ranking of the slope susceptibility levels at the national scale. During the period 2012-2013, several experiments of integration of triggering factors data and of the establishment of landslide typologically differentiated assessments have been carried out at the scale of countries (France, Romania, Georgia, Portual). These experiments conducted to the establishment of a methodology to update the current ELSUS map to a European landslide hazard map. Another aspect is to promote the genericity of the approach to other environments, and it is foressen to test the method on landslide national datasets in Africa (Ethiopia, Morocco) through established networks.

A survey is also currently being conducted in cooperation with ISPU on the pro and cons of available Landslide Risk Assessment Methodologies (LRAMs) in several countries. This should allow to propose some possible guidelines to establish a common strategy for landslide hazard assessment in Europe.

The Project has a European dimension and a significant impact within the activities of the "European and Mediterranean Major Hazards Agreement" since it involves four specialised centres (CERG, GHHD, CEPRIS, ISPU). The expertise of the academic partners (see above) guarantees the success of the research activities, as some of them (JRC-BGR-UdS-CNRS, EGS) are already working closely together within the 'Landslide Expert Group'. Co-funding to the research will be made available by each of the partners.

Specific objectives :

2014 :

Objective 1:

Quantitative analysis of the results of the survey on the performance of ELSUS v1 (possible location errors, possible local ranking errors in the susceptibility levels). Analysis of the on-going surveys on Landslide Risk Assessment Methodologies (LRAMs) conducted in collaboration with ISPU. (CERG; ISPU)

Objective 2:

Construction of ELSUS v2 through the:

- integration of landslide typological differentiation in the susceptibility assessment (e.g. rockfalls, shallow flows/slides, deep-seated complex slides) at the European scale through the use of new information on observed landslide locations (landslide inventories).

- integration of more detailed lithological information available at the continental scale (IHME - International. Hydrogeological Map of Europe).

Objective 3: Quantitative assessment of Hazard at the country scale for France, Romania and Georgia through the integration of soil moisture data from JRC, rainfall estimates from European Weather Forecast, and Peak Ground Acceleration (PGA) information.

The test will be first carried out on these three countries before extension at the European scale.

Objective 4: Benchmarking of the method to test its genericity to African physiogeographic settings and data availability conditions. Collection and organisation of relevant data for the national and regional assessments in Ethiopia and Marocco in collaboration with local partners

2015 :

Objective 1:

Redaction of a synthetis report on the pro / cons of the LRAMs at the European scale, based on the results of the surveys.

Objective 2:

Production of the European landslide susceptibility map Elsus v2 including typologically differentiated information. Diffusion of the map, and writing of a joint publication.

Objective 3:

Production of the quantitative hazard maps at the national scale for France, Romania and Georgia. Diffusion of the map and of the results through joint publication

Objective 4:

Integration of all information available for Ethiopia and Marocco, and production of the national susceptibility maps. Comparisons with ancillary data.

EXPECTED RESULTS

2014 : See below (activities)

2015 : See below (activities)

ASSOCIATED ACTIVITIES

(split by partner)

2014 :

1) Organisation of a 2-days workshop to initiate the project (all partners)

2) Draft analysis report of the LRAMs survey ((CERG, ISPU)

3) Performance of the new factors maps for the construction of Elsus v2. (CERG; BGR, JRC, CNR-IRPI)

4) Methodology for integrating triggering factors for nation scale assessments (test in France, Romania, Georgia) (CERG, GHHD, IGRA)
5) Organisation of a landslide inventory database (for scientific purpose) with indication on landslide location and landslide type (the database will not be transferred), and organisation of a database of environmental factors (geology, slope, landcover, rain) for Ethiopia and Marocco. (CERG, CEPRIS)

2015 :

- 1) Organisation of a 2-days workshop to initiate the project (all partners)**
- 2) Final report of the LRAMss surveys (CERG, ISPU)**
- 3) Diffusion of Elsus v2 and joint publication (CERG, BGR, JRC, CNR-IRPI)**
- 4) National scale landslide hazard maps for France, Georgia and Romania (CERG, GHHD, IGRA)**
- 4) 1st version of national susceptibility map for Ethiopia and Marocco (CERG, CEPRIS)**

RESULTS OBTAINED PREVIOUSLY (if any)

Follow up of the project 2012-2013: Pan-European and nation-wide landslide susceptibility assessment

Elsus V1 freely available at JRC/ESDAC data centre. Several published and submitted research papers. Establishment of new contacts at the European Scale with GeoSurveys and EGS.

2014 WORK PACKAGES

CERG, STRASBOURG

Work package 1

Description: Organisation of a 2-days workshop to initiate the project

Associated deliverables: Report of the workshop

Work package 2

Description: Analysis of the Landslide Risk Assessment Methodologies survey

Associated deliverables: Report on the analysis of the data in the form of an easy to read leaflet for end users

Work package 3

Description: Performance of the new factors maps for the construction of Elsus v2

Associated deliverables: Report on the analysis of the data in the form of an easy to read leaflet for end users

Work package 4

Description: Definition of a methodology for integrating triggering factors for nation scale assessments and tests

Associated deliverables: Report on the analysis of the data in the form of an easy to read leaflet for end users

CEPRIS, Morocco

Work package 1

Description: Organisation of a landslide inventory database (for scientific purpose) with indication on landslide location and landslide type for Morocco (CEPRIS)

Associated deliverables: Report on the CEPRIS contribution to the collection and organization of relevant data for the national and regional assessments in Morocco.

GHHD, Georgia

Work package 1

Description: Test in Georgia of the methodology for integrating triggering factors for nation scale assessments

Associated deliverables: Compilation of database of precipitation (rate/duration) and temperatures in Georgia and assessment of correlation between these parameters and landslide activity. Discrimination of periods of enhanced landslide hazard.

ISPU, Belgium

Work package 1

Description: Results of the Landslides Risk Assessment Methodologies survey

Associated deliverables: Draft report sent to the coordinator

Assessing drought recurrence using nonlinear approach

GHHD Tbilisi, Georgia

DURATION : 2014 2015 2014 - 2015

TARGET COUNTRIES : Algeria, Azerbaijan, Belgium, Bulgaria, Cyprus, France, Georgia, Germany, Greece, San Marino, Luxemburg, Italy, Malta, Armenia, Moldova, Ukraine, Morocco, Portugal, Romania, Russian Federation, France, "the former Yugoslav Republic of Macedonia", Spain, Turkey

PARTNERS INVOLVED :

COORDINATING CENTRE : *GHHD Tbilisi, Georgia*

OTHER CENTRES: *ECMHT Baku, Azerbaijan , CRSTRA Biskra, Algeria , AFEM Ankara, Turkey , ECFE Athens, Greece*

OTHER PARTNERS :

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

It is presently documented by number of researches that the mean global surface temperature has increased by about 0.06 degree of Celsius per decade in the 20th century. Essential increase (by 0.19 degree of Celsius) was reported since 70th of last century and it is supposed that the warming is likely to continue. Because of such tendency in the global climate change, drought has become a recurrent phenomenon causing increasing threat and practical damage to society. Presently, in several countries across the globe, along with increase in surface air temperature, erratic and uncertain rainfall distribution especially in arid and semi-arid ecosystems is manifested. Moreover it becomes more and more obvious that frequently recurring and severe droughts, in nearest future, may become one of most important natural disasters resulting in serious economic, social, and environmental crises.

Therefore because of observed shortening of drought recurrence cycles while the affected area is widening by new parts of territories that were once unaffected, drought forecasting acquires immense importance in the mitigation of possible unwanted impacts. At the same time drought recurrence forecasting can not be possible without purposeful investigation of basics of underlying processes.

Traditionally, statistical models have been used for drought forecasting based on linear time series analysis methods. E.g. simple regression and autoregressive moving average (ARMA) are typical models on which drought related statistical time series analysis and drought forecasting is based. However, basically linear models assume that data are stationary, and practically do not enable to deal with non-stationarities and nonlinearities in related natural processes. Therefore it becomes understandable that alternative models and approaches should be used when nonlinearity and nonstationarity play a significant role in the forecasting of drought recurrence. In general, recurrence phenomenon is one of the most important features of complex dynamical systems which helps to understand their spatial and temporal behavior and thus to predict or even control systems behavior. At present there are already developed special data analysis methods enabling to reveal hidden recurrent properties in nonstationary noise systems which look completely random. Based on the above mentioned, the main objective of proposed research is to investigate features of drought recurrence on local scale spatial and temporal scales based on available weather variation data sets. Exactly, general objective is to carry out analysis of nonlinear and recurrence properties of min, max and average air temperature data sets as well as precipitation time series from different locations in West and East Georgia. Special attention will be paid to data sets from weather stations located in areas where for last

decade recurring droughts have been observed. All this activity allow to assess drought recurrence characteristics (persistence, return period, etc)

Specific objectives :

2014 : Establishing linear/nonlinear and recurrence properties of weather and precipitation data sets from the 10-20 main meteorological stations from arid areas of in Georgia, Greece, Azerbaijan, Algeria, Turkey for the last 60 years.

2015 : Establishing linear/nonlinear and recurrence properties of droughts using multidimensional data sets of weather variation and precipitation from arid areas in Georgia, Greece, Azerbaijan, Algeria, Turkey.

EXPECTED RESULTS

2014 : Understanding linear/nonlinear properties of meteorological data sets and especially precipitation and temperature time series for elucidation of characteristics of drought recurrence.

2015 : New Understanding of spatial variation of drought recurrence in Georgia, Greece, Azerbaijan, Algeria, Turkey and assessing drought predictive time scales in Georgia, Greece, Azerbaijan, Algeria, Turkey.

ASSOCIATED ACTIVITIES

(split by partner)

2014 : GHHD - Collecting weather (temperature and precipitation) electronic time series from 10 meteorological stations in Georgia for the last 60 years. Collecting statistical data on the droughts in the same time period. Testing linear/nonlinear methods of time series analysis for establishing the temporal pattern of droughts

ECMHT - Collecting weather (temperature and precipitation) electronic time series from 10 meteorological stations in Azerbaijan arid area for the last 60 years. Collecting statistical data on the droughts in the same time period. Sending data to GHHD.

CRSTRA - Collecting weather (temperature and precipitation) electronic time series from 10 meteorological stations in Algeria for the last 60 years. Collecting statistical data on the droughts in the same time period. Sending electronic data to GHHD

AFEM -Collecting weather (temperature and precipitation) electronic time series from 10 meteorological stations in Turkey arid area for the last 60 years. Collecting statistical data on the droughts in the same time period. Sending electronic data to GHHD

ECFF - Collecting weather (temperature and precipitation) electronic time series from 10 meteorological stations in Greece arid area for the last 60 years. Collecting statistical data on the droughts in the same time period. Sending electronic data to GHHD

2015 : GHHD - Analysis of weather electronic time series in Georgia for revealing temporal patterns corresponding to drought periods using linear/nonlinear methods. Preliminary prediction of future pattern of drought recurrence in Georgia

ECMHT and GHHD - Analysis of weather electronic time series in Azerbaijan for revealing temporal patterns corresponding to drought periods using linear/nonlinear methods. Preliminary prediction of future pattern of drought recurrence in Azerbaijan

CRSTRA and GHHD - Analysis of weather electronic time series in Algeria for revealing temporal patterns corresponding to drought periods using linear/nonlinear methods. Preliminary prediction of future pattern of drought recurrence in Algeria

ECFF and GHHD - Analysis of weather electronic time series in Greece for revealing temporal patterns corresponding to drought periods using linear/nonlinear methods. Preliminary prediction of future pattern of drought recurrence in Greece

AFEM and GHHD - Analysis of weather electronic time series in Turkey for revealing temporal patterns corresponding to drought periods using linear/nonlinear methods. Preliminary prediction of future pattern of drought recurrence in Turkey

RESULTS OBTAINED PREVIOUSLY (if any)

In 2012 the GHHD published paper: In 2012 the GHHD published paper: Climate Change in Georgia; statistical and nonlinear dynamics predictions. A. Amiranashvili, T. Matcharashvili, T. Chelidze. Journal of Georgian Geophysical Society, 2012, 15, 67-88.

2014 WORK PACKAGES

GHHD, Georgia

Work package 1

Description: Collecting weather (temperature and precipitation) electronic time series from 10 meteorological stations in Georgia for the last 60 years.

Associated deliverables: Compilation of database of electronic time series on temperature and precipitation from 10 meteorological stations in Georgia for the last 60 years.

Work package 2

Description: Collecting statistical data on the droughts in the same time period. Testing linear/nonlinear methods of time series analysis for establishing the temporal pattern of droughts.

Associated deliverables: Establishing the temporal pattern of droughts in Georgia in pre-industrial and post-industrial periods using a toolbox of linear/nonlinear methods

CRSTRA, ALGERIA

Work package 1

Description: Collection of weather (temperature and precipitation) electronic time series for the last 60 years from 10 meteorological stations in Algeria.

Acquisition et mise à disposition de base de données relative aux températures et aux précipitations sur la plus longue série possible pour une dizaine de stations.

Associated deliverables: Les données seront transmises à GHHD Tbilissi, les analyses des données climatiques relatives au terrain d'étude Algérie. Celui-ci est retenu comme référence pour sa variabilité climatique. L'échantillonnage de base est composé de 10 stations.

Work package 2

Description: Collection of statistical data on the droughts in Algeria over the same time period.

Associated deliverables: Electronic data sent to the GHHD

ECMHT, AZERBAIJAN

Work package 1

Description: Collection of weather (temperature and precipitation) electronic time series for the last 10 years from 10 meteorological stations in Azerbaijan.

Associated deliverables: Electronic data sent to the coordinator

Work package 2

Description: Collection of statistical data on the droughts in Azerbaijan over the same time period.

Associated deliverables: Electronic data sent to the coordinator

ECPFE, GREECE

Work package 1

Description: The Greek contribution to the specific task will include a time series of 118 years of required data (max temp, precip) for Athens and relevant time series from 5-10 stations spread in Greece (since the 50s, the final number of stations meeting the criteria of long time series and "arid area" characteristics needs to be determined). Additional information concerning the final number of stations will be submitted, parameters included and other possible related material, as well as the time needed for data collection, QC, and preparation of a data basis in the required form.

Associated deliverables: Report sent to the coordinator

Global change, cultural heritage and smart cities

CUEBC – European University for the Cultural Heritage (Italy)

DUREE : 2014 2015 2014 – 2015

PAYS VISES: All countries

PARTENAIRES IMPLIQUES :

CENTRE COORDINATEUR : CUEBC Ravello, Italy

AUTRES CENTRES: ICoD La Valletta, Malta , , ,

AUTRES PARTENAIRES : ISTITUTO DI SCIENZE DELL'ATMOSFERA E CLIMA (ISAC), CNR-Italy

OBJECTIFS DU PROJET

Objectif global pour 2014-2015 :

Intelligent cities need urgently to take into consideration cultural heritage in the face of risks by climate and global changes. The concept of smart cities implies the use of advanced technologies, including information communication technologies (ICT), for a better management of buildings, mobility, energy, tourism and education. This is a challenge for cultural heritage, which needs to be taken into account for a sustainable urban planning. Furthermore a crucial issue to be dealt with is the risk management towards a sustainable management of cultural resources. Green solutions need to be found for the use and application of advance solutions and technologies for the conservation and protection of cultural heritage in its broad meaning: objects, historical and monumental buildings, city centres, etc...

Objectifs spécifiques :

2014 : The specific objective of the activity on "The future of cultural heritage in smart cities" will develop pressure of climate and air quality on materials and structures, impact of green economy on cultural heritage, including construction, energy and mobility, use of ICT for tourism management. The course will be held in Ravello, Italy.

2015 : The specific objective of the activity on "Cultural heritage in smart cities in coastal areas" will focus on smart use and exploitation of territories, intended as sustainable development, management and protection of cultural heritage in cities located on the coast; coastal cultural heritage management, including sub-sea sites (underwater archeological sites); increased urban agglomeration, tourism destination (groups/individuals); cruising vs cities: congestion and accessibility, citizens livability and tourist well being; education and training for public administration for including cultural heritage in smart cities planning; changes in atmospheric pollution and chemistry due to the changing strategy for mobility within cities. The course will be held in Malta.

RESULTATS ESPERES

2014 : High level training for scientists, urban planners, engineers, architects, cultural heritage managers focused on impact of green economy on cultural heritage.

2015 : High level training for scientists, urban planners, engineers, architects, cultural heritage managers focused on management and protection of cultural heritage in cities located on the coast.

ACTIVITES ASSOCIEES (reparties par partenaire)

2014 : the edition of the content of the last 4 Courses on the subject (2010 to 2013) is initiated for being published in 2014.

2015 :

RESULTATS OBTENUS PRECEDEMMENT (si pertinent)

Council of Europe participated in the organization and funding of 7 important events between 2009 and 2013 on the following specific theme :

1- International Workshop « Climate Change and Cultural Heritage » in Ravello, 14 - 16 May 2009, with 42 participants from 17 countries and international organizations.

2- 1st Post Doc Course on « Vulnerability of Cultural Heritage to Climate Change », at the Council of Europe in Strasbourg, 7-11 September 2009, with 36 participants from 13 countries and 17 speakers from 7 countries.

3 - Publication of "Climate Change and Cultural Heritage" (R.-A. Lefèvre and C. Sabbioni, ed., Edipuglia, Publ., Bari), 201 p., 2010.

4 - 2nd Post Doc Course on " Management and Protection of Cultural Heritage facing Climate Change " at the CUEBC in Ravello, 4-9 October 2010, attended by 22 participants from 7 countries and 16 speakers 8 countries.

5 - 3rd Post Doc Course on "Climate Change, Cultural Heritage and Risk. Energy, Mobility and Access", at the CUEBC in Ravello, 3-7 October 2011, with 24 participants from 8 countries and 13 speakers from 4 countries pays.

6 - 4th Post Doc Course on "Global change and Risks for Cultural heritage", at the Palais du Louvre in Paris (Centre de Recherche et de Restauration des Musées de France), 3-7 September 2012, with 35 participants from 9 countries and 14 speakers from 5 countries.

7 - 5th Post Doc Course on "Climate change, Global change and Cultural heritage: Vulnerability, Impact and Adaptation", at the CUEBC in Ravello, 7-9 October 2013, with 25 participants from 10 countries and 13 speakers from 5 countries.

2014 WORK PACKAGES

CUEBC, ITALY

Work package 1

Description: High level training "The future of cultural heritage in smart cities" for scientists, urban planners, engineers, architects, cultural heritage managers focused on pressure of climate and air quality on materials and structures, impact of green economy (including construction, energy and mobility) on cultural heritage and use of ICT for tourism management.

Associated deliverables: Minutes of the course

Work package 2 (prepared by CUEBC):

Description: Edition of the content of the last 4 Courses on the subject (2010 to 2013).

Associated deliverables: Publication of a book

CRSTRA, ALGERIA

Work package 1

Description: Intervention au cours de Ravello sur le thème « Bâtir en milieu aride ».

Associated deliverables: Mise à disposition du cours sur le site du Centre de Ravello.

Coupling terrestrial and marine datasets for coastal hazard assessment & risk reduction in changing environments

ICoD Valletta, Malta

DURATION : 2014 2015 2014 - 2015

TARGET COUNTRIES : Euro-Mediterranean countries

PARTNERS INVOLVED :

COORDINATING CENTRE : ICoD La Valletta, Malta

OTHER CENTRES: CERG Strasbourg, France , , ,

OTHER PARTNERS : Università di Modena e Reggio Emilia (UNIMORE, Italy), Université de Caen Basse-Normandie (UNICAEN, France), Consiglio Nazionale delle Ricerche: Istituto di Scienze Marine (ISMAR, Bologna, Italy); CNR-IRPI (Padua, Italy)

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

The global objectives of this activity address 'the impact of climate change and the environment' (a priority within line of action 2.C) and 'risk mapping and vulnerability' (a priority within line of action 2.B).

The project considers novel approaches to risk reduction in coastal areas, within a multi-hazard context and including sea level rise and landslides, in the continuation of the previous initial EUR-OPA research phase (2012-2013).

Coastal hazards are a topical issue nowadays which involves scientists and stakeholders trying to define the best procedures to face risks and increase community resilience, either reducing natural hazards or diminishing vulnerability. Coastal environments are particularly sensitive and susceptible to relevant damages in case of both sudden events (e.g., tsunamis, landslides, storm surges) and long-term processes (e.g., sea-level changes). Coastal instability phenomena which cause heavy socio-economic consequences and fatalities have increased significantly in recent years due to global changes, which determine more frequent extreme meteorological events, and progressive urbanisation of coastal areas, especially in developing countries. Furthermore, if coastlines are located in tectonically active areas, such as the Mediterranean Sea, the situation can be even more problematic.

The study areas are the Normandy coast (France) and the coasts of the Island of Malta, which show different morphoclimatic and tectonic setting, but which have been and are at present affected by significant changes in sea level since the Last Glacial Maximum, when the sea level was some 120 metres lower than present.

The Projects involves two specialised centres, ICoD and CERG . The expertise of the academic partners (see above) guarantees the success of the research activities. Co-funding to the research will be made available by each of the partners.

Specific objectives :

2014 :

- Based on the results achieved in the initial (2012 - 2013) research phase, the project envisages further work in the challenge of integrating newly acquired terrestrial and marine datasets with existing ones;

- *Development of procedures to perform coastal hazard maps, focussing on sea level rise and presenting a case study of the potential impact of sea level rise on beach resources for selected coasts of Malta and Normandy.*

- *Extend the current monitoring programme of coastal processes in the context of related erosion and landslide hazards;*

2015 :

- *Outline a methodology for hazard assessment taking into account climate and sea-level changes;*

- *Define methods to perform offshore landslide monitoring;*

- *Continue the coastal hazard monitoring programme in relation to coastal erosion and landslides.*

EXPECTED RESULTS

2014 :

1) *Integration of newly acquired terrestrial and marine datasets*

2) *Development of procedures to produce a hazard map*

3) *Extension of monitoring of coastal processes*

2015 :

1) *Definition of methodology for hazard assessment taking into account climate and sea level changes*

2) *Definition of protocols methods to perform offshore andslide monitoring*

ASSOCIATED ACTIVITIES

(split by partner)

2014 :

Work package 1 (prepared by all partners involved)

Description: Integrating newly acquired terrestrial and marine datasets with existing ones;

Work package 2 (prepared by all partners involved)

Description: Identification of a clear procedure for the development of hazard maps, focussing on sea level rise.

Work package 3 (prepared by all partners involved)

Description: extension of current monitoring programme of coastal processes in the context of related erosion and landslide hazards.

2015 :

Work package 1 (prepared by all partners involved)

Description: Outline a methodology for hazard assessment taking into account climate and sea-level changes;

Work package 2 (prepared by all partners involved)

Description: Definition of methods to perform offshore landslide monitoring;

RESULTS OBTAINED PREVIOUSLY (if any)

Initiated in 2012, this project has to date:

- *coupled existing terrestrial and submarine datasets;*

- outlined marine level variations since the Last Glacial Maximum;
- acquired new data on submarine landforms and processes along the Normandy and Malta coastlines, using multi-beam surveys;
- monitored coastal processes initiated within the 'Coastlines at Risk' 2009 - 2011 project;
- integrated newly acquired and existing submarine data;
- proposed a temporal reconstruction of the evolution of the study areas, with particular emphasis on creating maps when the sea level was below the present-day one.

2014 WORK PACKAGES

ICoD, Malta

Work package 1 (CERG< ICOD< MODENA):

Description: Continued work on integration of various sources of terrestrial and marine datasets building on previous (2011/2012) work in Malta and Normandy

Deliverable: Production of a geomorphological map including underwater and emerged areas of study and the production of a scientific paper on this topic

Associated deliverable: Production of an end-user leaflet addressing the 'Interest of the terrestrial and marine continuum knowledge for the detection of relationships between foreshore and shallow seabed (or between underwater and emerged areas).

Work package 2 (CERG< ICOD< MODENA):

Description: Organisation of a 2-day workshop to identify a clear procedure for the development of hazard maps, integrating sea level rise and the anthropic impacts for both rocky coast environments and sandy beaches.

Deliverable: workshop report.

Associated deliverable: Electronic leaflet describing the agreed methodology.

Work package 3 (CERG< ICOD< MODENA):

Description: Extension of current monitoring programme of coastal processes in the context of related erosion and landslide hazards. The collection of data on a long time-span is crucial to better understand coastal processes (erosion vs landslides) and distinguish between short-term (seasonal) and longer-term trends.

Deliverable: data collection and reports demonstrating to end-users the advantages of individual methodologies for coastal risk management, with ICoD focusing on beach erosion monitoring, Modena (in collaboration with CNR-PD) on landslide GPS monitoring and CERG and the University of Caen (in collaboration with colleagues from Brest and Lausanne) on Laser techniques survey (MLS and TLS) of landslides.

Associated deliverable: Leaflet for end-users on 'Interest of monitoring using laser

techniques (ALS, TLS & MLS -aerial, terrestrial and mobile-) to quantify the dynamic of the rocky coast (erosion and landslides)'.

CERG, Strasbourg

Work package 1

Description: Integration of the new terrestrial and marine datasets with historical information

Associated deliverables: Dissemination of the database on a website

Work package 2

Description: Construction of coastal hazard maps for the study case

Associated deliverables: Easy to read leaflet for end users to present the hazard assessment methodology

Work package 3

Description: Monitoring programme of coastal processes

Associated deliverables: Guidelines for monitoring coastal processes

UNIMORE, Italy

Work package 1 (in collaboration with ICoD and CERG):

Description: Continued work on the integration of various sources of terrestrial and marine datasets, with special reference to the Maltese archipelago.

Associated deliverables: Production of thematic maps including underwater and emerged areas of studied areas in Malta and production of a scientific paper on this topic (in collaboration with CNR-ISMAR).

Work package 2 (in collaboration with ICoD and CERG):

Description: Organisation of a 2-days workshop to identify a clear procedure for the development of hazard maps, integrating sea level rise and the anthropic impacts for both rocky coast environments and sandy beaches.

Associated deliverables: workshop report (UNIMORE will contribute to the overall report, with special reference to landslide hazard).

Work package 3 (in collaboration with ICoD and CERG)

Description: Extension of current monitoring programme of coastal processes in the context of related erosion and landslide hazards. The collection of data on a long time-span is crucial to better understand coastal processes (erosion vs landslides) and distinguish between short-term (seasonal) and longer-term trends.

Associated deliverables: data collection and reports addressed to end-users showing the advantages of an integrated approach for coastal risk management, with particular reference to landslides (in collaboration with CNR-PD).

3.A. Policy studies

National Strategies for alerting authorities and population concerning natural and technological risks in Balkan countries

ECRP - European Centre for Risk Prevention (Bulgaria)

DURATION :

2014

2015

2014 – 2015

TARGET COUNTRIES : Bulgaria, Croatia, Greece, FYROM, Romania, Serbia, Turkey

PARTNERS INVOLVED :

COORDINATING CENTRE : ECRP Sofia, Bulgaria

OTHER CENTRES: ECPFE Athens, Greece , ECILS Skopje, FYROM ,
ECBR Bucharest, Romania , AFEM Ankara, Turkey

OTHER PARTNERS : Croatia, Serbia

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

Developing a sustainable national policy and providing a stable legal and institutional framework for reducing risk disasters. Development of institutional capacity for identifying and implementing actions to reduce risk disaster in all critical sectors.

The main objectives of Agreement are to reinforce and promote co-operation between member States in a multi-disciplinary context to ensure better prevention, protection and organization of relief in the event of major natural or technological disasters. The final aim of Agreement is to create more resilient where people are better protected against natural and technological hazards.

Activity of the Agreement have connection with political support the following international initiatives:

- The main priority of the activity of the Agreement: "Warning to the people as a major factor in reducing the risk of disasters: the improvement of warning and preparedness aimed at the improvement of effective governance".

- Hyogo framework for Action 2005 - 2015: "Building resilience of nations and communities to disasters". Hyogo Framework for Action determine the directions of activities to prepare the public for disasters to limit their consequences for people, the economy and the surrounding environment as well as to improve processes for response and recovery. Framework for Action calls and set each one responsible for creating a National platform and strategy for reducing the risk disasters;

- The Council of Europe has included the strengthening of the security of its citizens in its Action Plan /adopted at the meeting in Warsaw in 2005/. State and Government of the member states of the Council of Europe have ordered the Council of Europe to continue to develop and maintain a comprehensive policy and regulation warning of the consequences of disasters taking into account the tasks of sustainable development;

- The decision of the Council of the European Union to establish an EU Mechanism for Civil Protection in order to reduce the risk of disasters;

- Memorandum of Understanding on institutional framework of the initiative for preparedness and disaster prevention in South East Europe and the adoption of the biennial Strategy and Action Plan Initiative. The main objective is an effective regional approach to disaster management by analyzing the current situation and the options available, the challenge to expand regional cooperation in the areas of the preparedness and prevention.

Specific objectives :

2014 :

Collect information for National platforms and National strategies in Bulgaria, Croatia, Greece, FYROM, Romania, Serbia, Turkey.

2015 :

Assessment of the situation, exchange of experiences and the identification of

the activities carried out in order to develop sustainable national policies to reduce of the risk disaster in Bulgaria, Croatia, Greece, FYROM, Romania, Serbia, Turkey.

EXPECTED RESULTS

2014 :

Introduction National platforms and National strategies for reducing of the risk disaster in the partner countries during the workshop. Developing joint conclusions and recommendations. Collect and distribution of the materials. Discussions and results will support the process to improve of legal base in partner countries.

2015 :

Organize an International Conference on National policies to reduce the risk of disasters in the Balkans. Developing joint conclusions and recommendations. Collect and distribution of material between the partner countries. Discussions and results will support the process to improve of legal base in partner countries.

ASSOCIATED ACTIVITIES (split by partner)

2014 :

***Work Package 1 /partner is developed by European centers and countries/:
Explanation: Presentation of National strategies and National platforms to reduce the risk disaster at the workshop and develop conclusions and recommendations. Collect and distribution of materials for the state.***

- ECRP /Sofia/ - Collect the materials provided by the partners on National platforms and National strategy for the reducing of risk disaster and organization of workshop in Sofia;***
- ECPFE /Athens/ - Provides materials on the National platform and the National strategy for reducing the risk disasters in Greece and provides participation in the workshop;***
- ECBR /Bucharest/ - Provides materials on the National platform and the National strategy for reducing the risk disasters in Romania and provides participation in the workshop;***
- AFEM /Ankara/ - Provides materials on the National platform and the National strategy for reducing the risk disasters in Turkey and provides participation in the workshop;***
- ECILS /Skopje/ - Provides materials on the National platform and the National strategy for reducing the risk disasters in FYROM and provides participation in the workshop.***

2015 :

***Work Package 1 /partner is developed by European centres and countries/
Explanation: An International conference to assess the situation and identify the activities carried out in order to develop sustainable national policies to reduce risk disaster. Developing joint conclusions and recommendations for the partner countries. Results will support the process to improve legal base in this area in partner countries.***

- ECRP /Sofia/ - Assess the situation and identify the activities carried out in order to develop sustainable National policies to reduce risk disasters in Bulgaria. Organize an International Conference with the participation of the partners;***
- ECPFE /Athens/ - Assess the situation and the identify the activities carried out in order to develop sustainable National policies to reduce the risk disaster in Greece. Ensure the participation in the International Conference;***
- ECBR /Bucharest/ - Assess the situation and identify the activities carried out in order to develop sustainable National policies to reduce the risk disasters in***

Romania. Ensure the participation in the International Conference;
- AFEM /Ankara/ - Assess the situation and identify the activities carried out in order to develop sustainable National policies to reduce the risk disasters in Turkey. Ensure the participation in the International Conference;
- ECILS /Skopje/ - Assess the situation and identify the activities carried out in order to develop sustainable national policies to reduce the risk disasters in FYROM. Ensure the participation in the International Conference.

RESULTS OBTAINED PREVIOUSLY (if any)

National platforms and National strategies for reducing risk disaster taken in the partner countries.

2014 WORK PACKAGES

ECRP, Bulgaria

Work package 2 (prepared by ECRP, Sofia):

Description: Collect and analyse the materials provided by other partners on National Strategy for alerting authorities and population concerning natural and technological risks

Associated deliverables: Draft report on the main trends in that domain

ECPFE, Greece

Work package 1 (prepared by ECPFE):

Description: Provides materials on the National Platform and the National Strategy for reducing the Earthquake risk disaster in Greece and provides participation in the workshop;

Associated deliverables: Participation in the workshop and relevant presentation

Elaborate the system of measures to solve the problems of trans-boundary countries in order to prevent heavy pollution of Kur river

ECMHT - (Baku, Azerbaijan)

DURATION: 2014-2015

TARGET COUNTRIES: Turkey, Georgia and Azerbaijan.

PARTNERS INVOLVED: Ministry of Ecology and Natural Resources, Azerbaijan Melioration of Water Supply Joint Stock Company, Research Institute of Water Problems, "Azersu" joint-stock company, "Fovqal" Association

COORDINATING CENTER: ECMHT- Baku, Azerbaijan

OTHER CENTERS: AFEM - Turkey, GHHD -Georgia

OBJECTIVES OF THE PROJECT

Global objectives for the years 2014-2015:

Starting in northeastern Turkey in two directions (the Kura from the north, the Araz from the South) the giant river flows through Azerbaijan where it receives the Aras River (at the Saatli-Sabirabad regions of Azerbaijan) as a right tributary, and enters the Caspian Sea. The total water basins of this river is 204 thousand square kilometers. About 28% of the water basin falls to Turkey's share and 72% to countries of the South Caucasus. The river covers 52% of the territory of Georgia (with Kura tributary), 80% of the territory of Azerbaijan (with Kura and Araz tributaries), the almost the whole area of Armenia and plays a very important role in the economic life of these countries. Its water is used for the purpose of irrigation and drinking. In particular, the vast majority of the administrative districts use the drinking water from this river.

Intensive pollution of Kura river by harmful industrial and everyday wastes has caused serious trouble after the collapse of the Soviet Union, because of the general lack of control. Hundreds of million cubic / m, metallurgy, chemical, mining, electric power industries, including Nuclear Power Station and domestic waste are discharged into the river without purification, from the countries of the region every year. Intensive pollution of Kura river gets very a serious negative influence to the health of people and on the productivity of lands and causes pollution of the Caspian Sea and it is becoming a real tragedy.

The aim of project : According to the International Helsinki Convention on the Protection of trans-boundary watercourses, to elaborate the system of measures and to organize the control of implementation of these measures to prevent this tragedy only joint participation of countries alongside Kura and Araz rivers. For this purpose, To check the radioactive and chemical contamination (dirty) degree of the beginning and end of the river area, to find out pollutant dangerous objects, to get known the situation (state) of the water cleaner systems and to develop recommendations for their elimination.

SPECIFIC OBJECTIVES:

2014: To create database by specifying the degree of the pollution of the Kura River and determining the most dangerous sources of pollutants and their reasons involving appropriate state agencies, municipalities, experts, scientists and coastal residents.

They are:

- The degree of the pollution of water and river-bed of Kura river;
- The Condition of water purification plants if any available and content harmful wastes that discharging into the river;
- Probable accidents happened cause of the pollution of water. Their influence on the productivity of lands and health of people;
- The collection of necessary facts to solve this problem.

2015: To elaborate appropriate recommendations to prevent intensive pollution of Kura river on the basis of the collected information of the trans-boundary countries in 2014 and submit to the appropriate state authorities to organize it control.

EXPECTED RESULTS

2014: To increase responsibility of the leaders of the institution that pollute water resources. To provide popularity of the control of solving this problem and to involve the countryside population (beside experts, scientists, representatives of local government and municipalities).

2015: The intensive pollution of the river will be decrease after the implementation of the system of measures to prevent technical pollution of Kura river. It will be create a reliable foundation to begin to fundamentally purify the irrigation lands and drinkable water for the population living in the coastal regions.

COORDINATING ACTIVITIES

2014: To prepare appropriate recommendation to protect the health of people living in the coastal regions and use the water of Kura river as the drinkable water and to print and distribute these recommendations in the booklet form.

2015: To organize short-term seminars for municipalities of coastal regions

2014 WORK PACKAGES

ECMHT, BAKU

Work package 1

Description: Specification of the degree of pollution of the Kura River in Azerbaijan, Turkey and Georgia.

Associated deliverables: Database on the degree of the pollution of the Kura River in Azerbaijan, Turkey and Georgia.

Check the radioactive and chemical contamination (dirty) degree of the beginning and end of the river area; find out pollutant dangerous objects, evaluate the state of the water cleaner systems; develop recommendations for their elimination.

Description: Determination of main sources of pollutants and their origin

Create a database by specifying the degree of the pollution of the Kura River and determining the most dangerous sources of pollutants and their reasons involving appropriate state agencies, municipalities, experts, scientists and coastal residents.

Associated deliverables: Draft report on main sources of pollution and potential solutions

Degree of the pollution of water and river-bed of Kura river (Azerbaijan, Turkey and Georgia); Condition of water purification plants (if any) available and content of harmful wastes discharged into the river; Probable accidents due to the pollution of water; Influence on the productivity of lands and health of people; Collection of necessary facts to solve the problems.

GHHD, Georgia

Work package 1

Description: To organize measurement and collection of necessary information to create database specifying the degree of pollution of the Kura river

Associated deliverables: To fix the most dangerous areas of pollution and prepare appropriate recommendation to protect the health of people. To deliver information to population, local government and municipalities.

3.B. Awareness initiatives

Be Safe Net. Protect yourself from hazard

BE SAFE NET – European Centre for Disaster awareness with the use of the Internet (Cyprus)

DURATION :

2014

2015

2014 – 2015

TARGET COUNTRIES : Global

PARTNERS INVOLVED :

COORDINATING CENTRE : BE-SAFE-NET Nicosia, Cyprus

OTHER CENTRES: CERG Strasbourg, France , ICoD La Valletta, Malta ,

OTHER PARTNERS : The TESEC - European Centre of Technological Safety (Kiev, Ukraine) is member of the Be Safe Net Editorial Board but it is not listed in the " OTHER CENTRES". The following Centres contributed to the implementation of sections of Be Safe Net: AFEM - European Natural Disasters Training Centre (Ankara, Turkey), CUEBC - European University for the Cultural Heritage (Ravello, Italy), CRSTRA - Scientific and Technical Research Centre on Arid Regions (Biskra, Algeria), ECRP - European Centre for Risk Prevention (Sofia, Bulgaria), GHHD - European Centre on Geodynamical Risks of High Dams (Tbilisi, Georgia) , GFMC Freiburg, Germany

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

Be Safe Net project was created under the umbrella of Europa Major Hazard Agreement of Council of Europe (27 mainly Euro-Mediterranean Countries).

The Be Safe Net initiative wishes to achieve three main goals:

1. Promote a culture of safety among a new generation of people
 - .Raising awareness on implications of their actions and their way of thinking on emergency
 - Replacing fear with a culture of preparedness
 2. Disseminate knowledge to multilingual societies
 - Create a common knowledge base of best experience
 - Disseminate it in several languages to benefit a wider society
 3. Become a interactive tool
 - Open our website to other users and organisations for their benefit and comments
 - Enrich its content by contributions based on external experiences
- The target is general public especially for the school teachers and students.

The global objectives for 2014-2015 are:

1) the setting up of an 'on-line based Olympiad' which will test the knowledge gained from theBeSafeNet website. This will reflect the effectiveness of the website in terms of awareness raising, promoting a culture of safety, disseminating knowledge to a multi lingual society, and acting as an interactive tool.

Specific objectives :

2014 : 1) Translate in Greek, French, Russian and Italian languages all the hazards and review the content on wildfires

2) Send an official letter to Authorities to promote participation to the Olympiad

3) Design a leaflet and a poster for distribution to Ministries of Education for subsequent

circulation in secondary schools

4) Produce predefined questions and answers for creating multiple choice questions (covering all hazards)

5) Launch the registration of the Olympiad (october 2014)

2015 : 1) Organize the competition of the Olympiad (Spring)

2) Introduction of new languages : German, Spanish etc.

EXPECTED RESULTS

2014 : Completion of the web-site in a minimum of 5 main languages (English, Italian, French, Greek and Russian). To develop the knowledge of the Be Safe Net at least at an European Level.

2015 : To reach the aim of the website which is to become an educational tool in the hands of teachers, focusing at risk prevention, preparedness, immediate reaction and rehabilitation

ASSOCIATED ACTIVITIES

(split by partner)

2014 : BE-SAFE-NET Nicosia, Cyprus activities

- To Translate in Greek language the the content on "wildfires" after its approval by Editorial Board.

- To Translate in Greek language the hazards reviewed in 2013.

- To organize the next meeting in Cyprus. Arrange a meeting with the technical support company of our Website "Belugga" to explain and clarify the technical issues of the Olympiad.

CERG activities

- To review the content on "wildfires".

- To Translate in italian language the the content on "wildfires" after its approval by Editorial Board.

- To Translate in italian language the hazards reviewed in 2013.

- To develop 30 multi-choice questions (MCQ) in English for the following natural hazards : "Volcanic

Eruptions", "Earthquakes", " Landslides", "Floods", "Drought and Desertification", "Avalanches", "wildfires".

TESEC activities

-Translate in Russian languages the following hazards: avalanches, landslides, hurricanes, sea level rise, nuclear hazard, chemical hazard

-To develop logistic for organizing of Olympiad

-To develop 30 multi-choice questions (MCQ) in English per each: nuclear hazards, chemical hazards, dam failure,

-To participate in evaluation of MCQ for other hazards

ICoD La Valletta, Malta activities

- To develop 30 multi-choice questions (MCQ) in English for the following natural hazards :

"Tsunamis", "Hurricanes and Storm Surges" and "Sea Level Rise"

2015 :

RESULTS OBTAINED PREVIOUSLY (if any)

The first Be Safe Net website (still available at

<http://www.besafenet.org/main/default.aspx?tabid=9>) has been deeply modified in the contents as well as in the look. The changes have been carried out following decisions taken in occasion of meetings held in Strasbourg (2006), Cyprus (2007 and 2009), Ravello (2008), Lisbon (2008), Malta (2010), Modena (2010), Paris (2011) and Kiev (2011). The new website is available at www.besafenet.net. It has been presented at the International Conference Mountain Risks: Bringing Science to Society held in Firenze (Italy) from 24 to 26 November 2010 and at the 5th edition of the International Earth Science Olympiad (IESO 2011), for secondary school students, held in Modena (Italy) from 5 to 14 September 2011. To the IESO 2011 attended 115 students and 97 mentors/teachers/observers

coming from 34 countries from all over the world. The website launch during EUR-OPA 25th Anniversary (April 2012). During the meetings in Paris (November 2012-Kiev sept. 2013) a) finalised the material for translation on all the hazards.b) proposal for organise an Olympiad during 2015.

2014 WORK PACKAGES

BE SAFE NET, CYPRUS

Work package 1

Description: Maintenance and update of the website in view of the Olympiad

Associated deliverables: Updated website with specific modules for the competition

Work package 2

Description: Publicize the Olympiad

Associated deliverables: Leaflet and poster

Work package 3

Description: Finalize the Greek version of the website

Associated deliverables: Final version in Greek

CERG, STRASBOURG

Work package 1

Description: Review the content on "wildfires" and translate in Italian the hazards reviewed

Associated deliverables: Final version of hazards sections in Italian

Work package 2

Description: Develop 30 multi-choice questions (MCQ) in English for the following natural hazards : "Volcanic Eruptions", "Earthquakes", "Landslides", "Floods", "Drought and Desertification", "Avalanches", "wildfires".

Associated deliverables: Final version of the MCQs

ICoD, Malta

Work package 1

Description: Develop 30 multi-choice questions (MCQ) in English for the following natural hazards: "Tsunamis", "Hurricanes and Storm Surges" and "Sea Level Rise"

Associated deliverables: Final version of the MCQs

Work package 2 (prepared by ICOD):

Description: Revise the draft English versions of all proposed MCQs

Associated deliverables: Proposed modification to the MCQs

TESEC, Ukraine

Work package 1

Description: Translate in Russian the following hazards: avalanches, landslides, hurricanes, sea level rise, nuclear hazard, chemical hazard

Associated deliverables: Final version in Russian

Work package 2

Description: Develop 30 multi-choice questions (MCQ) in English for the following natural hazards: nuclear hazards, chemical hazards, dam failure

Associated deliverables: Final version of the MCQs

Identification and risk awareness by pupils in case of flood problems: prevention, preparation and conduct during and after flood

ECMNR – European Centre for Mitigation of Natural Risks (Moldova)

DURATION :	<input type="checkbox"/> 2014	<input type="checkbox"/> 2015	<input checked="" type="checkbox"/> 2014 – 2015
LINE OF ACTION:	3.B. Awareness initiatives		
TITLE OF THE PROJECT :	Identification and risk awareness by pupils in case of flood problems: prevention, preparation and conduct during and after flood.		
TARGET COUNTRIES :	Member state of Agreement		
PARTNERS INVOLVED :	<p>COORDINATING CENTRE : ECMNR Chisinau, Moldova</p> <p>OTHER CENTRES: ECRP Sofia, Bulgaria , ECRB Bucharest, Romania , ,</p> <p>OTHER PARTNERS : TESEC, Kiev Ukraine</p> <p>-- Moldova's Water Agency (Ministry of Agriculture) Republic of Moldova</p> <p>- Service of Civil Protection and Emergency Situations of the Ministry of Internal Affairs</p> <p>- Ministry of Education of the Republic of Moldova</p> <p>- Institute of Education and Science of Moldova</p> <p>- State University of the Republic of Moldova</p>		

OBJECTIVES OF THE PROJECT
<i>Global objective for 2014-2015 :</i> Promoting educational initiatives for the establishment of common protection in case of flood problems
<i>Specific objectives :</i> 2014 : Accumulation of the existing materials and the results of pilot experiments, analysis of the positive experience and the best practice for risks prevention of Flood problems for pupils. 2015 : Pilot experiment at school on the ground of the 2014 results.
EXPECTED RESULTS
2014 : Decision approval and publication of seminar materials. 2015 : Presentation of the report on the pilot experiment results at a seminar.
ASSOCIATED ACTIVITIES (split by partner)
2014 : Presentation of the additional study material, reports about pilot experiments and other. 2015 : Support to the pilot experiment.
RESULTS OBTAINED PREVIOUSLY (if any)

2014 WORK PACKAGES

ECMNR, CHISINAU

Work package 1

Description:

1. Collection of the existing materials on identification and awareness of risk and results of teaching experiments (for short- term) in the Republic of Moldova with regard to the protection of pupils in case of flood.
2. Collection of the existing materials in relief of risk awareness by pupils in case of flood and the results of pilot experiments in Bulgaria.
3. Providing public awareness initiatives, promoting educational initiatives and additional material for education in schools.
4. Activities (studies, seminars, projects, training courses, publications, etc.) done by specialized Centres in agreement with educational institutions and the responsible authorities from Moldova and Bulgaria.
5. Disseminating knowledge about the nature of flood and providing training methodical support to teachers and development training skills of appropriate behaviour in case of flood problems to students.

Associated deliverables: Distribution of the work package. ECRP is concerned with the collection of the existing materials in relief of risk awareness by pupils in case of flood and the results of pilot experiments in Bulgaria. The report is sent to the coordinator.

Work package 2

Description:

1. Analysis of the positive experience and the best practice for risks prevention of Flood problems for pupils.
2. Drafting the content of the collected training material and drafting of Reports for presentation in the seminar organized by ECMNR Chisinau in order to inform directly the students, teachers, the State authorities, approving the decision and publishing material, in order to increase public awareness and improve general population preparedness and especially students' preparedness in case of risk of flood.
3. Drafting recommendations and publishing a book (in English and the official languages of Moldova and Bulgaria) on students' actions in case of flood: before the flood; during the flood and after the flood.

Associated deliverables: Presentation of the additional study materials, report about the pilot experiment etc. Translation of the materials into Bulgarian.

ECRP, Bulgaria

Work package 1 *Description:* Collection of the existing materials in relief of risk awareness by pupils in case of flood and the results of pilot experiments in Bulgaria.

Associated deliverables: Report sent to the coordinator.

TESEC, Ukraine

Work package 1

Description: Collection of the existing materials and the results of pilot experiments in Ukraine

Associated deliverables: Report sent to the coordinator

Public Awareness and Education Tools for Disaster Risk Reduction and Preparedness in Earthquake Situation

ECBR – European Centre for Rehabilitation of Buildings (Romania)

DURATION :	<input checked="" type="checkbox"/> 2014	<input checked="" type="checkbox"/> 2015	<input type="checkbox"/> 2014 – 2015
TARGET COUNTRIES :	ROMANIA, MOLDOVA, BULGARIA, UKRAINE		
PARTNERS INVOLVED :	COORDINATING CENTRE : ECBR Bucharest, Romania		
	OTHER CENTRES: ECMNR Chisinau, Moldova , ECRP Sofia, Bulgaria , ,		
OTHER PARTNERS :			

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

Increase resilience and preparedness through education and awareness of public institutions staff and population for earthquake crisis that might be caused by subcrustal Vrancea source and crustal, shallow sources.

This is based on ECBR conclusion of 2012-2013 that in Romania we need a more specialized approach to increase resilience and preparedness through education and awareness of public institutions staff and population for earthquake crisis, while building rehabilitation is depending on such actions and is just a part of this long-term process.

Specific objectives :

2014 : Reinforce complementary national, local and regional actions in DRR.

2015 : Promote workshops, publications, multi-media information and website addressed to the specific and general public.

EXPECTED RESULTS

2014 : Risk awareness materials for local authorities and most vulnerable populations in areas at seismic risk

2015 : Improved content of web site for education on risk reduction, with Euro-Mediterranean coverage.

ASSOCIATED ACTIVITIES

(split by partner)

2014 : ECBR - Study of crisis situation and scenarios impact in case of deep Vrancea earthquakes and shallow earthquakes of other sources

2015 : ECBR - Proposals and delivery of knowledge transfer and training, using new earthquake education tools for public employees and population

RESULTS OBTAINED PREVIOUSLY (if any)

Data on past impacts caused by the Vrancea transboundary earthquakes in Romania, Moldova and Bulgaria, including behavior and response of population at risk .

Printed and website materials for earthquake disaster education of citizens, school students and other people in seismic areas.

The rationale for this objective is based on the recent crisis, covering different situations. In past years, ECBR activities were mainly directed towards convincing urban owners of apartments to strengthening of high-rise reinforced concrete buildings, dating before 1940 Vrancea earthquake, designed without seismic code. Such buildings are labelled for seismic risk, but in Bucharest only some 20...30 out of 123 were strengthened. On the other hand, some very old low-rise masonry buildings of the historical center of Bucharest are used with a high degree of occupancy, although they are in precarious state.

In 2012, some false predictions about a "Big One", triggered by some small Vrancea earthquakes caused public concern, while mass-media exacerbated the stress and rumors when conveying unreliable news about an imminent great

earthquake.

Starting with September 2013, a special crisis situation occurred in Galati County area, near epicentral Vrancea source, where a swarm of small and shallow (crustal) earthquakes disturbed the life of several villages. The area tectonic basement has some well-known major faults, but country people and media suspected the local oil wells as a cause. In 2013 some floods affected the same villages. Since the number of small shocks reached over 300, and some Vrancea intermediate depth earthquakes occurred randomly, the crisis increased, but local authorities were not able to manage the social concern.

The prime minister and the minister of education asked a scientific survey. Specialized institutions, including URBAN-INCERC and ECBR studied the damage of buildings in villages Izvoarele and Schela. It was concluded that a small local fault was a reason of shocks, while the local ground conditions amplified the motions. In November the swarm tended to decrease and eventually cease. This kind of swarm was a first case in recent history. It was obvious that media coverage was a main reason of aggravating the crisis, because of debates about wrong defined issues and citizens need more correct information and education about natural hazards. Some TV interviews and seismic motion demonstrations with building models in ECBR Seismolab in in October and November 2013 contributed to a better information and education transmitted to population. However, later on the Vrancea source is producing small quakes around magnitude 3, keeping some fear in the minds of neighbour areas and in half of Romania.

The crisis situation of Galati County has shown us that the scientist and authorities must address the earthquake protection not only for great shocks, but also for crustal shallow sources. We must address our materials for simple people, as well as for educated ones, but with due care about TV and newspapers that are feeding a kind of social unrest, misinterpreting the proper information. In this respect, URBAN-INCERC and ECBR started a cooperation with IGSU-General Inspectorate for Emergency Situations to make TV clips for earthquake preparedness and response.

As far as we know, the tectonic conditions of R. Moldova, Ukraine and Bulgaria are likely to accomodate the same situation from crustal sources (Shabla, Strasitza etc), while Vrancea impact and forecasts is a common issue. Thus the EUR-OPA Specialized Centers can be appropriate partners.

2014 WORK PACKAGES

ECMNR, CHISINAU

Work package 1 (prepared by ECMNR):

Description:

1. Collection of the existing materials on identification and reduction of disaster risk and on prevention of earthquake situation.
2. Identification of risk areas and promoting training lessons for students in courses on seismic risk management.
3. Improving understanding by persons and society in terms of seismic risk in order to increase political awareness and attention on management of risk, preparedness in case of earthquake, including people with disabilities.

4. Supporting a roundtable organized by ECMNR Chisinau in order to inform directly the pupils, teachers, the responsible State authorities to increase people awareness and improve preparedness in case of risk of earthquake.

Associated deliverables: Report sent to the coordinator.

ECRP, Bulgaria

Work package 1

Description: Collection of the existing materials in relief of risk awareness by pupils in case of flood and the results of pilot experiments in Bulgaria.

Associated deliverables: Report sent to the coordinator.

Inform and involve the population in the prevention of seismic and tsunami risks: minimize damage and increase the resilience of cities

CERU – European Centre on Urban Risk (Portugal)

DURATION :	<input type="checkbox"/> 2014	<input type="checkbox"/> 2015	<input checked="" type="checkbox"/> 2014 – 2015
TARGET COUNTRIES:	Portugal, Maroc,		
PARTNERS INVOLVED:	COORDINATING CENTRE: CERU Lisbon, Portugal		
	OTHER CENTRES: CEPRIS Rabat, Morocco, CUEBC Ravello, Italy , ,		
	OTHER PARTNERS : IDL, Portugal		

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

The main objective of the project is to increase the resilience of the population in relation to seismic and tsunami risks and to improve the collective response to a crisis situation, proposing and carrying out actions that contribute to the dissemination of information and procedures.

The proposal is based on:

- Characterization of the population, identifying vulnerabilities and assessing its resilience in an earthquake.
- Identification of the information to be transmitted to the population as preparedness measure to an earthquake, such as procedures to follow when it happens and in the immediate period: at individual, household, workplace, public institutions levels.
- Identification of actions to increase the risk culture of the population: exercises, simulations ...
- Identification of forms of participation of the population according to their own organization: residents' associations, socio-professional groups, cultural and recreational associations.
- Identification of information channels that will be used to organize the collective response to an earthquake and/or tsunami framed in the civil protection actions: information on evacuation routes, areas of local concentration, brochures, local signals equipment, WEB site.

Specific objectives :

2014 :

Information gathering, collection of opinions and establishment of intervention principles.

Analysis of contingency plans in their most important aspects for the implementation of the collective organized response to the occurrence of an earthquake, such as risk mapping and evacuation procedures.

- ***Preparing mapping possibly missing risks in floodplains and unstable cliffs.***
- ***Social analysis. Identify the most vulnerable groups with special attention to people with disabilities.***
- ***Promoting meetings with basis associative organizations, in particular with those who have responsibility for the management of equipment defined as areas of local concentration in case of disaster.***
- ***Evaluation of the message to pass at the level of preparation for an earthquake: how to react to an event and post- quake***
- ***.***
- ***Organizing a local seminar to establish findings and principles for action: involvement of authorities, civil protection , associations and companies***

- **Concrete scientific operation on behaviour of a public building (school and hospital) in case of an earthquake, integrating in it authority, education system and associations.**

2015 :

Dissemination of results and formulation of proposals

- **Proposal of risk signals and beaches evacuation.**
- **Proposal to place information in the areas of local concentration.**
- **Production of bilingual brochure on seismic and tsunami risks.**
- **Organization of a traveling exhibition.**
- **Organization of a seminar in each city under study .**
- **Preparation of the final report.**

EXPECTED RESULTS

2014 : Establishment of cooperation links by institutions and target populations

2015 : Proposed events and tools for the initiation of a culture of prevention on seismic and tsunami risks. Proposal of measures (technical and political) to increase the resilience of most vulnerable groups

ASSOCIATED ACTIVITIES

(split by partner)

2014

Work Package 1: (CERU Lisbon , Portugal)

Description: A seminar to launch the project and establish findings and principles for action: involvement of the authorities, civil protection, associations and companies. This seminar will take place in Portugal and the responsible municipal civil protection of coastal municipalities around Cascais to Setubal (south of Lisbon) will be invited to participate.

Work Package 2: (CERU Lisbon , Portugal & CUEBC Ravello, Italy)

Description : Organization of a workshop in the south of Portugal (Lagos) , inviting the leaders of the municipal civil protection of coastal municipalities of the Algarve, to establish results and principles of action with also the participation of associations and local enterprises

Work Package 3: (CERU Lisbon , Portugal)

Description: conducting lacking studies on social vulnerability and risk mapping

Work Package 4: (CEPRIS , Rabat, Morocco)

Organizing conferences to launch the project at the target cities in Morocco: Tangier and M'Diq

Work Package 5: (CEPRIS , Rabat, Morocco)

Fieldwork to study vulnerability of a school and a hospital in Tangier inviting authorities and target persons to follow the different stages of this scientific operation.

2015

Work package 1: (CERU Lisbon , Portugal & CEPRIS Rabat, Morocco & CUEBC , Ravello, Italy)

Description: Organization of a traveling exhibition to showcase the different parishes and local associations

Workpackage 2: (CERU Lisbon , Portugal & CEPRIS Rabat, Morocco)

Description: Preparation and implementation of materials (folding, posters, signals, etc.) to place in risk areas , areas of concentration of population and to distribute in associations and schools.

Work package 3: (CERU Lisbon , Portugal & CEPRIS Rabat, Morocco & CUEBC , Ravello, Italy)

Description: Organization of a final seminar for the presentation of results.

RESULTS OBTAINED PREVIOUSLY (if any)

Thanks to VULRESADA project, developed in 2012-13 by two promoters Centres :

1 - links have been established between these centers with the respective authorities of the two countries (Municipalities and Provinces , civil protection)

2 - Through an itinerant seminar held in Portuguese and Moroccan cities involved

in this project (Cascais - Tanger - M'Diq and Lagos), the progress of this project was brought to decision-makers and target population.

3 - A Master's thesis was finalized at the end of 2013 on evacuation routes and points of concentration in the city of Lagos , Portugal.

2014 WORK PACKAGES

CERU, Lisbon

Work package 1

Description: Organisation d'un séminaire au Portugal pour lancer le projet et établir résultats et principes d'action : implication des autorités (notamment les protections civiles municipales des mairies côtières entre Cascais et Setubal), des associations et des entreprises.

Associated deliverables: Rapport sur les principales discussions et résultats du séminaire. Plan de travail détaillé

Work package 2 (prepared by CERU & CUEBC):

Description: Organisation d'une réunion de travail au sud de Portugal (Lagos), en invitant les responsables de la protection civile municipal des mairies côtières de l'Algarve, pour établir résultats et principes d'actions avec aussi la participation d'associations et entreprises locales

L'objectif principal sera d'établir des mécanismes de coordination entre la population et la protection civile, d'informer sur les comportements et les manières de répondre aux séismes au niveau des individus, des ménages et des groupes socio-professionnels, élargissant ce concept aux interventions de réhabilitation, afin d'éviter l'introduction de faiblesses structurelles et si possible d'assurer son renforcement.

Associated deliverables: Minutes de la réunion de travail. Identification de matériel *d'outreach* existante et en manque. Identification des actions à entreprendre pour minimiser le risque des groupes plus vulnérables.

Work Package 3:

Description: Réalisation des études en manque sur la vulnérabilité sociale et sur la cartographie des risques

Associated deliverables: Rapport sur l'analyse de la vulnérabilité sociale et cartographie des risques à Cascais et Lagos.

CEPRIS, Morocco

Work Package 1:

Description: Organisation de workshop et/ou de journées pour le lancement du Projet aux niveaux des villes cibles au Maroc: Tanger et M'Diq

Associated deliverables: Conclusions des réunions

Work Package 2:

Description: Travaux de terrain pour étudier la vulnérabilité d'un établissement scolaire et d'un hôpital à Tanger en invitant les autorités et les personnes cibles à suivre les différentes étapes de cette opération scientifique.

Associated deliverables: Rapports sur la vulnérabilité des bâtiments

CUEBC, Italy

Work package 1

Description: Participation aux séminaires au Portugal pour lancer le projet et établir résultats et principes d'action : implication des autorités, protection civile, associations et entreprises.

Associated deliverables: Voyages au Maroc et à Lagos, Algarve (Portugal)

Greater involvement of citizens in the decision-making process to protect against man-made disasters

TESEC – European Centre of Technological Safety (Ukraine)

DURATION :	<input type="checkbox"/> 2014	<input type="checkbox"/> 2015	<input checked="" type="checkbox"/> 2014 – 2015
TARGET COUNTRIES :	All member-states		
PARTNERS INVOLVED :	COORDINATING CENTRE : TESEC Kiev, Ukraine OTHER CENTRES: ECRP Sofia, Bulgaria , GHHD Tbilisi, Georgia , CEMEC San Marino , ECNTRM Moscow, Russian Federation OTHER PARTNERS : Armenia, Azerbaijan, EC		

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

Democracy is a requisite if we are to build safer, more resilient societies. People have the right to be made aware of the risks surrounding them and public authorities have the duty to involve them in measures and procedures aimed to protect them from risks. One fundamental aspect of safety is access to the relevant information concerning the hazards that some industrial activity may pose to the population.

Bhopal (India) chemical accident in 1984 (approximately 3,800 people die and several thousand other individuals experience permanent and partial disabilities) and Chernobyl (Ukraine) nuclear accident in 1986 (more than 3 million people have been affected) have demonstrated a high risk attributed to hazardous materials, which have been released into environment. Chemical, radiological disasters or dam failure could affect millions of people on distance many kilometres, as have been demonstrated by Bhopal and Toulouse chemical accidents, Chernobyl or Fukushima nuclear accidents.

The awareness and knowledge people about nature of technological hazards and protection measures will help you save your life.

Emergency preparedness plan is a key tool of emergency prevention and preparedness. It has to be developed and clearly define all measures for effective emergency response. It has to identify the roles and responsibilities of all the parties concerned, including the general public. It should clearly indicate co-ordination among the parties, as well as the lines of communication and the means of obtaining the necessary technical, medical information and knowledge. The emergency plan should guarantee that the potentially affected public and people with disabilities specifically:

- is provided with general information about possible accidents at planned or operated hazardous installations or sites. This should include the nature and extent of technological risk, and potential effects on human health; and/or the environment, including property;
- is provided with timely information on the appropriate behaviour and safety measures they should adopt in the event of an accident involving radionuclides or other hazardous substances, dam failure. Other information that may be needed to understand the nature of the possible effects of an accident (such as information on radionuclides or other hazardous substances capable of causing serious off-site damage) should be available, and most importantly, information about being able to contribute effectively, as appropriate, to decisions concerning hazardous installations and the development of community emergency preparedness plans, taken to account special measures for people with disabilities.

In many countries general public is not involved in Emergency Plans development and is not informed about possible accidents at hazardous installations or sites, on the appropriate behaviour and safety measures, which should adopt in the event of an accident.

Specific objectives :

2014 : During first stage of project the best international and national experience of emergency planning in the case of man-made disasters, with a focus to public information and involvement in decision-making, taken to account special measures for people with disabilities will be collected and analyzed.

2015 : On the basis of analysis the recommendation for Emergency Plans in the case of man-made disaster, regarding public information and involvement, taken to account special measures for people with disabilities will be developed and distributed to participated countries together with recommended booklets, websites, pocket books and other documents about basic knowledge and behaviour in the event of emergency. People will receive more information about risk and will be better protected.

EXPECTED RESULTS

2014 : Collected and analyzed best international experience of emergency planning in the case of man-made disasters, with a focus - public information and involvement, taken to account special measures for people with disabilities will be collected and analyzed..

2015 : The recommendation for Emergency Plans in the case of man-made disaster, regarding public information and involvement, taken to account special measures for people with disabilities will be developed and distributed to participated countries together with recommended booklets, websites, pocket books and other documents about basic knowledge and behaviour in the event of emergency. People will receive more information about risk and will be better protected.

ASSOCIATED ACTIVITIES

(split by partner)

2014 : Collecting best international experience -all partners

2015 : Working group for analyzing international experience and developing recommendation will be created

RESULTS OBTAINED PREVIOUSLY (if any)

Internationally validated EUR-OPA products: BeSafeNet website, Booklets, Pocket Guides have been developed in English and other languages

2014 WORK PACKAGES

TESEC, Ukraine

Work package 1

Description: Collect and analyse best national experience of emergency planning in the case of man-made disasters, with a focus on public information and involvement in decision-making, taking into account special measures for people with disabilities.

Associated deliverables: Report sent to the coordinator

Work package 2

Description: Analysis of the collected contributions

Associated deliverables: Draft report on the best practices and remaining problems

CEMEC, San Marino

Description: Collect and analyse best national experience of emergency planning in the case of man-made disasters, with a focus on public information and involvement in decision-making, taking into account special measures for people with disabilities.

Associated deliverables: Report sent to the coordinator for compilation

ECMHT, Azerbaijan

Work package 1

Description: Collect and analyse best national experience of emergency planning in the case of man-made disasters, with a focus on public information and involvement in decision-making, taking into account special measures for people with disabilities.

Associated deliverables: Report sent to the coordinator for compilation

ECRP, Bulgaria

Work package 1

Description: Collect and analyse the best national experience of emergency planning in the case of man-made natural disasters, with a focus to public information and involvement in decision-making, taken into account special measures for people with disabilities, children, the elderly, tourists, migrants and other groups of population.

Associated deliverables: Report sent to the coordinator.

GHHD, Georgia

Work package 1

Description: Collect and analyse best national experience of emergency planning in the case of man-made disasters, with a focus on public information and involvement in decision-making, taken into account special measures for people with disabilities.

Associated deliverables: Organization of public information and training on man-made disasters involving decision-makers taking into account special measures for people with disabilities.

ECNTRM, Russian Federation

Work package 1

Description: Collect and analyse best national experience of emergency planning in the case of man-made disasters, with a focus on public information and involvement in decision-making, taken into account special measures for people with disabilities.

Associated deliverables: Report sent to the coordinator.

ECRM, Armenia

Work package 1 Description: Collect and analyse best national experience of emergency planning in the case of man-made disasters, with a focus on public information and involvement in decision-making, taken into account special measures for people with disabilities.

Associated deliverables: Report sent to the coordinator for compilation

3.C. Ethics and social values

Development of informative Material concerning Earthquake Protection Measures, for People with disabilities

ECPFE Athens, Greece

DURATION :	<input checked="" type="checkbox"/> 2014	<input checked="" type="checkbox"/> 2015	<input checked="" type="checkbox"/> 2014 - 2015
TARGET COUNTRIES :	ALL THE COUNTRIES OF THE ACTIVITY		
PARTNERS INVOLVED :	COORDINATING CENTRE : ECPFE Athens, Greece		
	OTHER CENTRES: , , ,		
	OTHER PARTNERS : ALL THE CENTERS OF THE AGREEMENT		

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

Representing one-fifth of the world's population, people with disabilities have a fundamental right to a degree of protection against disasters that is comparable with that enjoyed by the rest of the population .

The main objective of this project addresses to people with disabilities as well as to their caregivers , so as to contribute to their education and training and thus to raise awareness about the importance of the Earthquake Protection Measures.

Earthquake Guidelines are classified into three sections:

Protection measures before earthquakes

(What you should do at this point onwards)

Protection measures during an earthquake

(What you should do during the few seconds that an earthquake lasts)

Protection measures after an earthquake

(Which steps you should follow right after the earthquake finishes)

Specific objectives :

2014 : Development of Informative Innovative material concerning Earthquake guidelines to people with disabilities .

Especially it is very important to translate this education material to special

Languages addressed to people with disabilities like, "Easy-to-read", "Text for all" and augmentative alternative communication " MAKATON".

The target group of this activity are : people with Cognitive Impairments, Mentally retarded , illiterates , patients with Alzheimer syndrome , the whole range of autism , emigrants (that don't speak the local language) , caregivers of people with disabilities etc

2015 : Testing the provided material with drills and feedback.

Development of a software application for tablets and I-phones in several operation systems like : windows, iOS , Android ™ , Blackberry, etc

Organization of a Seminar in order to present the goals achieved .

EXPECTED RESULTS

2014 : The design and production of two posters in “easy-to-read” and to “MAKATON” language with Earthquake(before –during –after) Protection Measures to people with disabilities.

The design and production of two leaflets in “easy-to-read” and to “MAKATON” language with Earthquake(before –during –after) Protection Measures to people with disabilities.

2015 : The design and production of a software application

ASSOCIATED ACTIVITIES

(split by partner)

2014 :

2015 :

RESULTS OBTAINED PREVIOUSLY (if any)

The production of a booklet : “LEARNING ABOUT EARTHQUAKES AND PROTECTION MEASURES -GUIDELINES FOR PEOPLE WITH DISABILITIES”, in Greek and in English.

The creation of an e-learning platform and the design of a relevant questionnaire In Greek and in English , published in ECPFE’s website: <http://ecpfe.oasp.gr>

The translation of this booklet into BRAILLE language , applied to people with blindness.

Drills and evacuation exercises have been organized by EPPO and have taken place in competent bodies like: “Theotokos Foundation” – Training Center for People with Cognitive Impairments, ESEEPa – Special Vocational Training Center, Lighthouse for the Blind of Greece, Social Work Foundation “Hadjipatereion” R.C.C.C.P., Special School for the Deaf at the National Foundation for the Deaf and other.

2014 WORK PACKAGE

ECPFE, Greece

Work package 1 Development of informative innovative material concerning Earthquake guidelines to people with disabilities .

Especially it is very important to produce this education material to special languages addressed to people with disabilities like, “Easy-to-read”, and augmentative alternative communication” MAKATON”.

The target groups of this activity are : people with Cognitive Impairments, Mentally retarded , illiterates , patients with Alzheimer syndrome , the whole range of autism ,emigrants (who do not speak the local language), carers of people with disabilities etc.

Associated deliverables: The design and production of two posters and two leaflets in "easy-to-read" and to "MAKATON" language in English and in Greek, with Earthquake(before -during -after) Protection Measures for people with disabilities.

Involving people with disabilities in disaster planning and preparedness, as an integral part of disaster preparedness and response

ECRM – European Interregional Scientific and Educational Centre on Major Risk Management (Yerevan, Armenia)

DURATION :	<input checked="" type="checkbox"/> 2014	<input checked="" type="checkbox"/> 2015	<input checked="" type="checkbox"/> 2014 - 2015
TARGET COUNTRIES :	all member-states		
PARTNERS INVOLVED :	COORDINATING CENTRE : ECRM Yerevan, Armenia OTHER CENTRES: ECPFE Athens , TESEC Kiev OTHER PARTNERS : the Russian Federation, Georgia, Moldova, Bulgaria		

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

Development of information-educational material (brochure) on “Involving people with disabilities in disaster planning and preparedness as an integral part of disaster preparedness and response”, whose main target is:

- To serve a basic information-educational material with concrete recommendations and detailed proposals on how to develop an Individual Plan, enabling to be prepared for disasters for people with disabilities, a Family Plan, Neighborhood Plan, Plan for institution, where people with disabilities work or study, Plan for specialized institutions where people with disabilities, especially children are provided care, on integration of these Plans into Municipal Plans on disaster risk reduction and emergency management,**
- To serve an information-educational material for people with disabilities on what to do to be ready for a disaster already today, to cultivate self-reliance, what to do before, during and after disaster.**

Specific objectives :

2014 : Developing a first draft of the “Involving people with disabilities in disaster planning and preparedness, as an integral part of disaster preparedness and response” in English and Russian; translation of the brochure into national languages by the concerned countries; distribution to responding national institutions for comments, questions and proposals from the experts and different categories of the public; discussion of it at national levels. Sending to ECRM for compilation and merging of proposals from partner-countries

2015 : Development of a final version text and its translation into national languages publishing brochures in national languages and in English and Russian; organization of national training courses.

EXPECTED RESULTS

2014 : The draft brochure: Involving people with disabilities in disaster planning and preparedness, as an integral part of disaster preparedness and response in English, Russian and national languages of partner-countries and contribution made at national levels

2015 : Final variant of the brochure: Involving people with disabilities in disaster planning and preparedness, as an integral part of disaster preparedness and response in English, Russian and national languages of partner-countries with contribution made at national levels. Discussion of the brochure in partner-countries, organization of training courses

ASSOCIATED ACTIVITIES

(split by partner)

2014 :

2015 :

RESULTS OBTAINED PREVIOUSLY (if any)

In 2012-2013 in the framework of the Project: “Development of information-educational materials on awareness raising and improved preparedness to an earthquake and on rules of behavior for people with disabilities, especially children” developed the “Manual on preparedness and behavior rules for people with disabilities, especially children, if an earthquake is real or seems imminent (the priorities for action)”.

2014 WORK PACKAGES

ECRM, Armenia

Work package 1:

Description: Finalisation of the draft document

Associated deliverables: Draft document in Russian and English

Work package 2

Description: Discussion of draft document with national partners (institutions, experts and different categories of public): comments, questions and proposals.

Associated deliverables: Report sent to the coordinator for compilation.

Work package 3:

Description: Revision of draft document based on all partners’ comments, questions and proposals.

Associated deliverables: Revised document in Russian and English

CEMEC, San Marino

Work package 1

Description: Translation of draft document in Italian.

Associated deliverables: Draft document in Italian.

Work package 2

Description: Discussion of draft document with national partners (institutions, experts and different categories of public): comments, questions and proposals.

Associated deliverables: Report sent to ECRM for compilation.

ECPFE, Greece

Work package 1

Deployment of a Committee under the aegis of ECPFE, with the participation of individuals with mobility impairments. The Task of this Committee is to record the special needs of this target group in combination with the Earthquake Protection measures. Production of a relevant report in English and in Greek.

Associated deliverables: Report sent to the coordinator

TESEC, Ukraine

Work package 1

Description: Translation of draft document in Ukrainian.

Associated deliverables: Draft document in Ukrainian.

Work package 2

Description: Discussion of draft document with national partners (institutions, experts and different categories of public): comments, questions and proposals.

Associated deliverables: Report sent to ECRM for compilation.

Soft skills in disaster preparedness and relief

CEMEC – European Centre for Disaster Medicine (San Marino)

DURATION : 2014 2015 2014 – 2015

TARGET COUNTRIES : Algeria, Azerbaijan, Belgium, Bulgaria, Cyprus, France, Georgia, Germany, Greece, San Marino, Luxembourg, Italy, Malta, Armenia, Moldova, Ukraine, Morocco, Portugal, Romania, Russian Federation, France, “the former Yugoslav Republic of Macedonia”, Spain, Turkey

PARTNERS INVOLVED :

COORDINATING CENTRE : CEMEC San Marino

OTHER CENTRES:

OTHER PARTNERS :

OBJECTIVES OF THE PROJECT

Global objective for 2014-2015 :

Soft skills, also called Non-technical skills, reflect the interpersonal (e.g. communication, teamwork, and leadership) and cognitive skills (i.e. decision-making and situational awareness), that complement rescuers technical skills. In case of emergency or disaster, non-technical aspects of performance are effectively captured by the way a team works together to deliver care safely.

Why is team-working/non-technical performance in rescue operations important?

Failures in teamwork and non-technical skills in rescue operations have been recently implicated in adverse events and failures to save lives and to mitigate the impact of the disaster. In contrast, empirical evidence has found that superior teamwork is associated with fewer errors and better efficiency of rescue teams.

What are the significant behavioral dimensions of teamwork?

The five behavioral dimensions of teamwork of interest are:

- **COMMUNICATION:** quality and quantity of information exchanged among members of the team.
- **COORDINATION:** management and timing of activities and tasks.
- **COOPERATION AND BACK UP BEHAVIOUR:** assistance provided among members of the team, supporting others and correcting errors.
- **LEADERSHIP:** provision of directions, assertiveness and support among members of the team.
- **TEAM MONITORING AND SITUATIONAL AWARENESS:** team observation and awareness of ongoing processes.

Specific objectives :

2014 :

To publish a multilingual guide for improve non-technical skills awareness and use among non-health care rescue teams

To design and to implement a learning project for soft-skills development by non-health care rescuers

2015 :

To organize an international meeting on the topic

EXPECTED RESULTS

2014 :

Booklet titled: “Soft skills in disaster preparedness and relief” (In English)

Design of a course (in English) to train people to teach soft-skills developments

Run a two days course in Rome (Italy)

2015 :

Design of a one day course to teach soft skills for non-health care rescuers

Run a one day course to teach soft skills in every of the participant countries

International Meeting in Rome (Italy)

ASSOCIATED ACTIVITIES

(split by partner)

2014 :

2015 :

RESULTS OBTAINED PREVIOUSLY (if any)

In 2012-2013 in the framework of the Project: "Development of information-educational materials on awareness raising and improved preparedness to an earthquake and on rules of behavior for people with disabilities, especially children" developed the "Manual on preparedness and behavior rules for people with disabilities, especially children, if an earthquake is real or seems imminent (the priorities for action)".

2014 WORK PACKAGES

CEMEC, San Marino

Work package 1 (prepared by CEMEC):

Description: Preparation of a booklet entitled "Soft skills in disaster preparedness and relief"

Associated deliverables: draft booklet "Soft skills in disaster preparedness and relief"

Work package 2 (prepared by CEMEC)

Description:

- i) design a training course in English for the teaching of soft skills developments;
- ii) select eligible participants (one per Centre) for the course. Eligibility will be under the responsibility of each Centre based upon teaching and communication attitudes and competencies.

Associated deliverables: production/dissemination of course teaching material

Work package 3 (prepared by CEMEC)

Description: Organisation and implementation of the 2-day teaching course in Rome. For budgetary reasons attendance will be limited to 3 representative participants from 3 EUR-OPA member countries

Associated deliverables: Report of the course.