



National Institute for Research and Development in Construction, Urban Planning and Sustainable Spatial Development “URBAN-INCERC”, Bucharest, Romania

ECBR – EUROPEAN CENTER FOR BUILDINGS REHABILITATION

REPORT ON ECBR ACTIVITIES IN 2020. ACTIVITIES OF ECBR PROJECT IN 2021

Dr. Eng. Emil - Sever Georgescu
DIRECTOR OF ECBR

Joint Meeting of the Committee of Permanent Correspondents and Directors of Specialised Centres
VIA VIDEO CONFERENCE
3-4 November 2020, 09:00-17:30 CET

THE WHOLE ROMANIA IS A SEISMIC COUNTRY

THE VRANCEA DEEP SEISMIC SOURCE CAUSED TRANSBOUNDARY DISASTERS IN REPUBLIC OF MOLDOVA, UKRAINE AND BULGARIA

Press coverage in France –
Carlton Building collapse
Paris Soir, Nov. 12, 1940

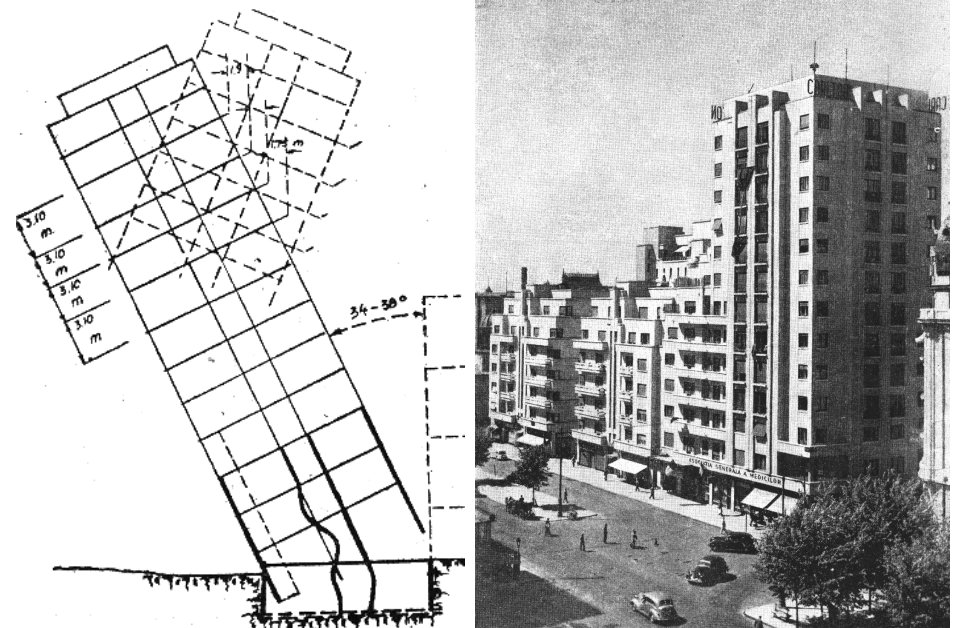


L'ILLUSTRATION, 30 November 1940

IT'S A LONG WAY TO SEISMIC RISK REDUCTION...

... ALMOST 80 YEARS ALREADY

- November 10, 1940 Vrancea earthquake
- $M_{G-R} = 7.4$; $M_w = 7.6-7.7$, $I_{max} = 9$ MM
 - Collapse of Bucharest 12 story-high Carlton Building - highest reinforced concrete structure – no seismic design (1935)
 - Heavy damage in S-E of Romania



- December 30, 1941 / January 19, 1942 - Beginning of earthquake engineering codes – Ministry of Public Works Guidelines to prevent earthquake damage and ensure the repair of buildings

- **March 4, 1977: collapse of 25 pre-1940 buildings in Bucharest that were damaged in 1940 and left without strengthening**



- **A large campaign of works started after March 4, 1977**
- **However, on July 4, 1977, the highest political leader ordered in a CPEX meeting, followed on July 6 by the IGSIC telex # 11264, that the reference to the seismic resistance of a damaged building is entirely removed and that only local repairs are made.**
- **This is the root of the current seismic risk problems in Bucharest and in other cities.**

- **March, 4, 1977 Vrancea earthquake**
 - $M_{G-R} = 7.2$; $M_w = 7.5$, $I_{max} = 8$ MSK
 - **US\$ 2.084 billion losses, with 70% of the total in Bucharest**
 - **Casualties: 1,578 deaths (1,424, i.e. 90% in Bucharest); 11,300 injured (7,600, i.e. 68% in Bucharest)**
 - **In 23 of 40 counties, heavy damage to buildings was recorded**

2015-2030 ECBR is in the frontline to promote UNO-DRR Sendai Framework

Risk assessment in Bucharest:

- **Total - about 2500 high-rise buildings at risk**
- **350 Risk Class I buildings – with the “RED DOT” label**

Cladire expertizata tehnic
încadrata
în clasa I risc seismic

- **Many ...not yet assessed buildings over the entire territory**
- 2019-2021 – A new National Seismic Risk Reduction Strategy is under preparation at the Ministry of Public Works, Development and Administration – MLPDA, with the support of the World Bank, to be enforced in 2021-2050.**

**THE ENTIRE SOCIETY SHALL BE RESILIENT.
PUBLIC INSTITUTIONS STAFF AND CITIZENS MUST BE
EDUCATED AND TRAINED FOR BUILDINGS
REHABILITATION AND EARTHQUAKE SAFETY**

ECBR PROJECT 2020-2021

USING KNOWLEDGE FROM EUR-OPA SPECIALIZED CENTRES TO ENSURE EARTHQUAKE RESILIENCE OF IMPORTANT COMMUNITY BUILDINGS. PREPARATIVES TO SUPPORT THE FORTHCOMING STRATEGY OF SEISMIC RISK REDUCTION IN ROMANIA

Coordinator Centre: ECBR, Bucharest, Romania

Partner Centre: ECPFE Greece, Athens

The main field of activity of ECBR in Romania, i.e. “building rehabilitation”, has entered a new phase, given that **a new National Seismic Risk Reduction Strategy is under preparation at the ministry in charge, MLPDA, with the support of the World Bank, to be enforced in 2021-2050.**

Recently, **the Law – Ordinance No. 20/1994 was modified as to make compulsory the risk assessment and classification of all schools built before 1978 by 2021.**

New ECBR Project for 2020-2021 - The general aim is to work in support of MLPDA to prepare the enforcement of the new strategy, in order to:

- speed up the use of scientific and technological knowledge to promote the new **National Seismic Risk Reduction Strategy** and to better assess risks and adapt accordingly the resilience strategies for important public facilities, as schools, hospitals and other public institutions/facilities
- strengthen the governance capacity of local authorities for implementing the new **National Seismic Risk Reduction Strategy**, while developing cooperation among all decision-makers in DRR using the knowledge from EUR-OPA specialized centres (ECBR, Bucharest, Romania; ECPFE Athens, Greece)

THE 2020-2021 ECBR PROJECT IS RELATED TO THE SENDAI PRIORITIES FOR ACTION ON THE MEDIUM TERM PLAN:

- **Using scientific and technological knowledge to better assess evolving risks and adapt accordingly the resilience strategies**
- **Developing cooperation among all decision-makers to better define the adequate role of the authorities in DRR**

A global overview of the project's implementation

Specific objectives in 2020

- Preparation of training materials and of scientific knowledge transfer on seismic risk reduction for school / educational facilities, addressed to professors, school principals / directors and administrative staff, by training seminars
- Knowledge transfer by training seminars for employees of local authorities to strengthen their governance capacity for implementing the new **National Seismic Risk Reduction Strategy**, using the prepared developed materials.
- Exchange of experience with the associated center (ECPFE Greece, Athens).

Activities in 2020

Coordinator Centre: ECBR, Bucharest, Romania

Organization of an on-line training seminar – Webinar on seismic risk reduction for schools / educational facilities, addressed to professors, directors and administrative staff

- Date: 22 October 2020, Duration: one day
- Venue: Virtual Seminar / Zoom Webinar from ECBR Hall in URBAN-INCERC
- Participants: **about 100 attendees**

Organization of an on-line training seminar – Webinar for local authorities staff / employees

- Date: 23 October 2020, Duration: one day
- Venue: Virtual Seminar / Zoom Webinar from ECBR Hall in URBAN-INCERC
- Participants: **about 50 attendees**

Partner 1: ECPFE Athens, Greece - attending seminars for providing expertise and educational materials to ECBR and participants for earthquake preparedness to ECBR on specific risks reduction in schools or public institutions

Modifications that occurred in the project work plan:

- **Because of the SARS-CoV-2 / COVID-19 pandemics, the planned ECBR Seminars were organized on-line**

The most significant achievements as result of the grant during the time reporting period:

- ▶ *Organization of two on-line seminars with 4 didactic hours presentations and 1 discussion session*
- ▶ *Preparation of deliverables for seminars by ECBR members:*
 - *Dr. Eng. Emil Sever Georgescu, Senior Researcher*
 - *Asssoc. Prof. Dr. Eng. Habil. Iolanda-Gabriela Craifaleanu, Senior Researcher*
 - *Lecturer Dr. Eng. Daniela Dobre, Senior Researcher*
 - *Asssoc. Prof. Dr. Eng. Claudiu Sorin Dragomir, Senior Researcher*
- ▶ *Invitation of relevant stakeholders, with presentations covering the two fields, as follows:*
 - *The situation of seismic hazard, vulnerability and risk in Romania. Destructive earthquakes in the history of Romania. European and worldwide earthquakes that involved schools damage. Specific features of educational buildings. Seismic risk reduction and earthquake preparedness in educational facilities. Actions to be taken before, during and after earthquakes. Education / teaching resources*
 - *National Seismic Risk Reduction Strategy – outline, objectives and pillars*
 - *Seismic risk reduction and earthquake preparedness in educational facilities. Actions to be taken before, during and after earthquakes. Education / teaching resources*
 - *The situation of seismic hazard, vulnerability and risk in Romania. Destructive earthquakes in the history of Romania. European and worldwide earthquakes that involved public authorities. Specific features of public authorities buildings. Responsibilities of public authorities and methodology for post-seismic investigation and safety of buildings*
- ▶ *The connection of earthquakes impact with SARS-CoV-2 / COVID-19 impact*
- ▶ *Discussions and on-line surprise surveys on the participants' perception on specific aspects of seismic risk reduction in their places of residence and at work*

MINISTERUL EDUCAȚIEI ȘI CERCETĂRII
INCD INCERC Institutul Național de Cercetare-Dezvoltare în Construcții
Urbanism și Dezvoltare Teritorială Durabilă URBAN-INCERC

Seminar ECBR on-line (Webinar) - 23.10.2020

HAZARD, VULNERABILITATE ȘI RISC SEISMIC ÎN ROMÂNIA.

CUTREMURELE DISTRUCTIVE DIN ISTORIA ROMÂNIEI

Dr. ing. Emil-Sever GEORGESCU
Dr. ing. Iolanda-Gabriela CRAIFALEANU

ECBR – Centrul European pentru Reabilitarea Clădirilor
din cadrul Acordului EUR-OPA Hazarduri Majore

MINISTERUL EDUCAȚIEI ȘI CERCETĂRII
INCD INCERC Institutul Național de Cercetare-Dezvoltare în Construcții
Urbanism și Dezvoltare Teritorială Durabilă URBAN-INCERC

STRATEGIA NAȚIONALĂ DE REDUCERE A RISULUI SEISMIC

DR. ING. IOLANDA-GABRIELA CRAIFALEANU
DR. ING. EMIL-SEVER GEORGESCU

ECBR – Centrul European pentru Reabilitarea Clădirilor
din cadrul Acordului EUR-OPA Hazarduri Majore

MINISTERUL EDUCAȚIEI ȘI CERCETĂRII
INCD INCERC Institutul Național de Cercetare-Dezvoltare în Construcții
Urbanism și Dezvoltare Teritorială Durabilă URBAN-INCERC

RISUL SEISMIC: UNITĂȚI DE ÎNVĂȚĂMÂNT

TIPOLOGII DE CLĂDIRI

Proiecte tip – anii '50-80

https://desenhouse.smachub.com/model/4b-4029e5a56570764814990110473262?Scouta_Centrala_1825_Bucuresti_Banania

MINISTERUL EDUCAȚIEI ȘI CERCETĂRII
INCD INCERC Institutul Național de Cercetare-Dezvoltare în Construcții
Urbanism și Dezvoltare Teritorială Durabilă URBAN-INCERC

EXEMPLE DE DEZASTRE SEISMICE CARE AU IMPLICAT SCOLI

DR. ING. EMIL-SEVER GEORGESCU

MINISTERUL EDUCAȚIEI ȘI CERCETĂRII
INCD INCERC Institutul Național de Cercetare-Dezvoltare în Construcții
Urbanism și Dezvoltare Teritorială Durabilă URBAN-INCERC

Seminar ECBR on-line (Webinar) - 22.10.2020

RESURSE EDUCATIONALE PENTRU TRANSFERUL DE CUNOȘTINȚE PRIVIND PROTECȚIA LA CUTREMUR ȘI REDUCEREA RISULUI SEISMIC

Dr. ing. Emil-Sever GEORGESCU, CS I
Dr. ing. Daniela DOBRE, CS III

MINISTERUL EDUCAȚIEI ȘI CERCETĂRII
INCD INCERC Institutul Național de Cercetare-Dezvoltare în Construcții
Urbanism și Dezvoltare Teritorială Durabilă URBAN-INCERC

Seminar ECBR on-line (Webinar) - 22.10.2020

REDUCEREA RISULUI SEISMIC ÎNTR-O UNITATE ȘCOLARĂ

PREGĂTIREA ANTICIPATĂ A PERSONALULUI, ELEVILOR, CLĂDIRILOR, ECHIPAMENTELOR ȘI MOBILIERULUI PENTRU CUTREMUR

Dr. ing. CS I Emil-Sever GEORGESCU
Dr. ing. CS III Daniela DOBRE
Dr. ing. CS Iolanda-Gabriela Craifaleanu
Centrul European pentru Reabilitarea Clădirilor
din cadrul Acordului EUR-OPA Hazarduri Majore

MINISTERUL EDUCAȚIEI ȘI CERCETĂRII
INCD INCERC Institutul Național de Cercetare-Dezvoltare în Construcții
Urbanism și Dezvoltare Teritorială Durabilă URBAN-INCERC

RISUL SEISMIC: CLĂDIRI ALE AUTORITĂȚILOR LOCALE

TIPOLOGII DE CLĂDIRI

Clădiri tradiționale și/sau monument istoric – structură din zidărie


Primăria Buzău
<https://primariabuzau.ro/institutia-arhitectului-set/aa/>


Primăria Timișoara
<https://orasul-timisoara.ro/local-10153/>


Consiliul Județean și Prefectura Brașov
<https://brasovmetropolitan.ro/2020/08/>

MINISTERUL EDUCAȚIEI ȘI CERCETĂRII
INCD INCERC Institutul Național de Cercetare-Dezvoltare în Construcții
Urbanism și Dezvoltare Teritorială Durabilă URBAN-INCERC

Seminar ECBR on-line (Webinar) - 23.10.2020

REDUCEREA RISULUI SEISMIC ÎNTR-O CLĂDIRE CU FUNCȚIUNI PENTRU AUTORITĂȚI PUBLICE LOCALE

PREGĂTIREA ANTICIPATĂ A PERSONALULUI, CLĂDIRILOR, ECHIPAMENTELOR ȘI MOBILIERULUI PENTRU CUTREMUR

Dr. ing. CS I Emil-Sever GEORGESCU
Dr. ing. CS III Daniela DOBRE
Dr. ing. CS Iolanda-Gabriela Craifaleanu
ECBR – Centrul European pentru Reabilitarea Clădirilor
din cadrul Acordului EUR-OPA Hazarduri Majore

MINISTERUL EDUCAȚIEI ȘI CERCETĂRII
INCD INCERC Institutul Național de Cercetare-Dezvoltare în Construcții
Urbanism și Dezvoltare Teritorială Durabilă URBAN-INCERC

Seminar ECBR on-line (Webinar) - 23.10.2020

ATRIBUȚIILE AUTORITĂȚILOR LOCALE PRIVIND INVESTIGAREA POST-SEISMICĂ DE URGENȚĂ A CLĂDIRILOR

METODOLOGIE
PRIVIND INVESTIGAREA DE URGENȚĂ A SIGURANȚEI POST SEISM A CLĂDIRILOR ȘI STABILIREA SOLUȚIILOR CADRU DE INTERVENȚIE
Indicativ ME-003-2007

Dr. ing. Emil-Sever GEORGESCU
Dr. ing. Claudiu Sorin DRAGOMIR
INCD URBAN-INCERC

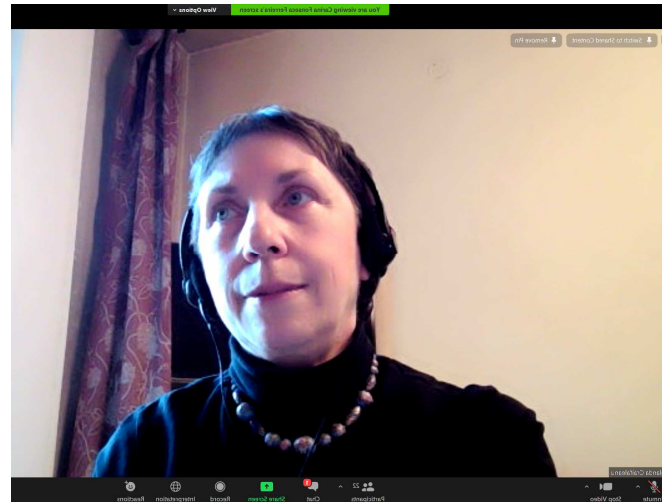
On-line presentations on Zoom - training lectures on seismic risk reduction for school / educational facilities, addressed to professors, directors and administrative staff, as well as to local authorities staff / employees

**CUTREMURELE ȘI ...
PANDEMIA Sars-Cov-2 / Covid-19**

- ♦ Ce legătură poate fi între acestea ?
- ♦ S-a văzut în Croația la 22 martie 2020, cutremurul Zagreb de M 5,3 produs la o lună după impactul Covid-19
 - ❑ O persoană a murit, 27 au fost rănite, s-au produs avarii la 250 clădiri iar 59 de persoane au avut nevoie de adăpost temporar. Până la seism, în Zagreb erau 87 de cazuri de Covid-19 și 206 în toată țara; după 2 săptămâni au fost încă 337 cazuri în Zagreb (Silva and Paul, 2020)
 - ❑ Proprietarii au trimis 26.000 cereri de inspecție de urgență a clădirilor
 - ❑ Avarii la 63 unități educative și 7 spitale

Într-o situație de impact din hazarduri multiple

- ♦ Cum asigurăm investigarea avariilor și relocarea activităților din școlile avariate ?



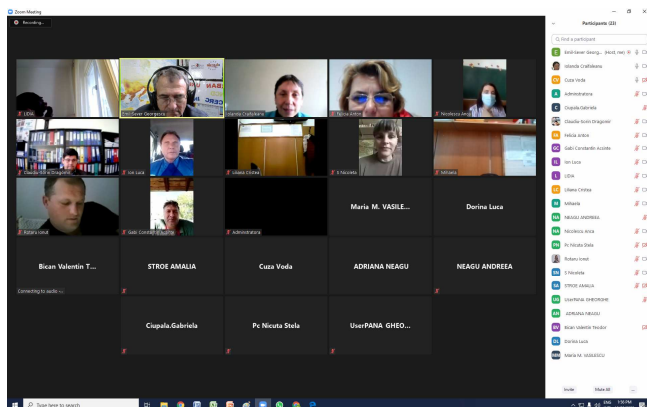
The connection with SARS-Cov-2 / COVID-19 was related to the example of the Croatia Earthquake of March 22, 2020 in ECBR members' presentations

Let's be protected of SARS-CoV-2...but let's be prepared for the earthquake!

Three stories which best illustrate the successes and/or challenges of our work to date

I. During the ECBR Webinar with schools staff, participants answer an on-line surprise survey on two questions:

- Which are the words that come to your mind when you think about EARTHQUAKE?
 - **Answers: danger, collapse, fear, panic, children, disaster, shelter, family, death, escape etc**

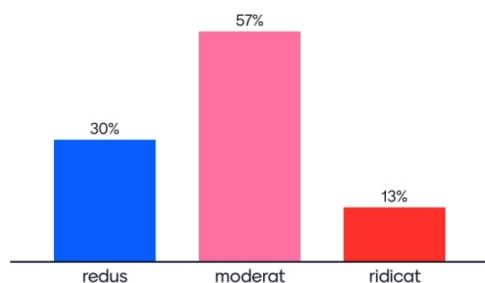


Ce cuvinte vă vin în minte prima dată când vă gândiți la cutremur?

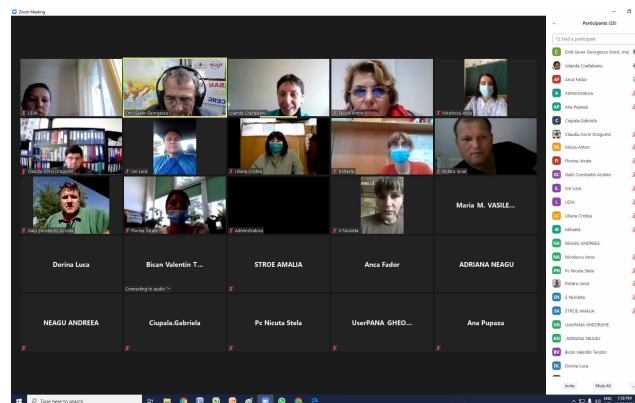


- How would you assess the seismic risk of the building in which you work?
 - **Answers: 30% low, 57% moderate, 13% high**

Cum ați aprecia riscul seismic al clădirii în care lucrați?



Mentimeter



Schools participating in the October 22, 2020 Seminar

















































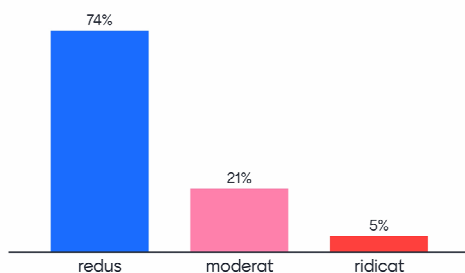
 Liceul Tehnologic Dimitrie Gusti	 Școala Gimnazială SPIRIT VOIEVOZI	 Școala cu clasele I-VIII nr. 74 Văcărescu	 Școala Gimnazială nr. 163, sector 6, București	 Școala Gimnazială Nr. 1 Bilești	 Liceul Tehnologic „Spiru Haret”, Târgoviște	 Colegiul Tehnic „Gh. Asachi”, Focșani	 Colegiul Tehnic „Ion Mincu”, Focșani
 Colegiul Tehnic Edmond Nicolau, Focșani	 Colegiul Tehnic Valeriu D. Cotea, Focșani	 Colegiul Tehnic Auto Traian Vuia, Focșani	 Liceul Tehnologic „Victor Jinga” Săcele	 Colegiul Național „Costache Negri” Galați	 Liceul Tehnologic „Erebuți” Târg	 Liceul Tehnologic „Henri Coandă”, Tulcea	 Școala Gimnazială Parța
 Școala Posticeala Sanitară „Grigore Ghica-Voda” din Iași	 Colegiul Național „Stefan cel Mare” Băilești	 Școala Gimnazială „D.D. Bătrâșcău” Tomrești	 Liceul Teoretic Bogdan Voda, Băilești	 Școala Gimnazială Ciortesti	 Școala Gimnazială Ploiești, jud. Iași	 Școala Gimnazială „D.A. Sturdza” din Iași	 Liceul Teoretic de Informatică „Grigore Moisil” Iași
 Școala gimnazială Iordache Cantacuzino, Pașcani	 LICEUL TEHNOLOGIC SPECIAL „VASILE PAVELCU”, Iași	 Școala Gimnazială Constantin Eftichescu, Erbiceni	 Colegiul Național „Ion Creangă”	 Colegiul Național Iași	 Grădinița cu PP Erazm Grimm SIBIU	 Colegiul Tehnic „Mihail Sturdza” din Iași	 Palatul Copiilor Iași
 Grădinița cu PP „Albinița” ERASAR	 Grădinița PP „Martiniță” nr.17 Brașov	 Colegiul Tehnic „Gh. Asachi” Iași	 Liceul Tehnologic „Mihail Buzuloc”, Pașcani	 Școala Gimnazială Orleni, jud. Iași	 Grădinița cu Program Normal Licurici	 Școala Gimnazială „Ioan Grigorescu” din Ploiești	 Școala Gimnazială „A. Băseșanu” Ploiești
 Școala gimnazială „Andrei Mureșanu”, Ploiești	 Școala Gimnazială „Ion Neculce” Iași	 Școala Gimnazială „Ioan Grigorescu”, Ploiești	 Grădinița Step by Step cu P.P. și P.N. Raza de Soare, Ploiești	 Școala „D. D. Bătrâșcău”, Tomrești	 Școala Gimnazială „Toma T. Sorescu”, comuna Păulești	 Școala Gimnazială „Ștefănuț Vasile”, Municipiul Ploiești	 Școala Primara „Concordia” Ploiești

Photo source: Internet

II. During the ECRB Webinar with the staff of local authorities, participants answered an on-line surprise survey on two questions:

Cum ați aprecia riscul seismic al clădirii în care lucrați?



How would you assess the seismic risk of the building in which you work?

- Answers: 74% low, 21% moderate, 5% high

How would you rank the importance of the objectives included in the draft of the National Seismic Risk Reduction Strategy? (please scale from 0 to 5)

Objective 1: Reduce seismic risk

Reduce seismic risk nationwide by saving lives, reducing injury, and protecting assets through prioritized and efficient investments

Objective 2: Promote well-being

Promote well-being by creating co-benefits on energy efficiency and sanitary conditions, among other functionality aspects; and

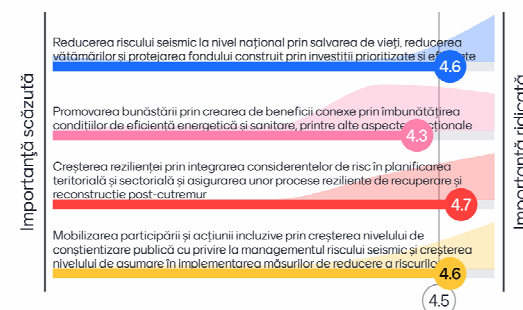
Objective 3: Boost resilience

Boost resilience by integrating risk considerations in territorial and sectorial planning and ensuring resilient recovery and reconstruction processes

Objective 4: Mobilize participation and inclusive action

Mobilize participation and inclusive action by raising public awareness on seismic risk management and building ownership in the implementation of risk reduction measures

Utilizați cursorul scalelor pentru a desemna importanța obiectivelor SNRRS



Answers:

Objective 1 - 4.6

Objective 2 - 4.3

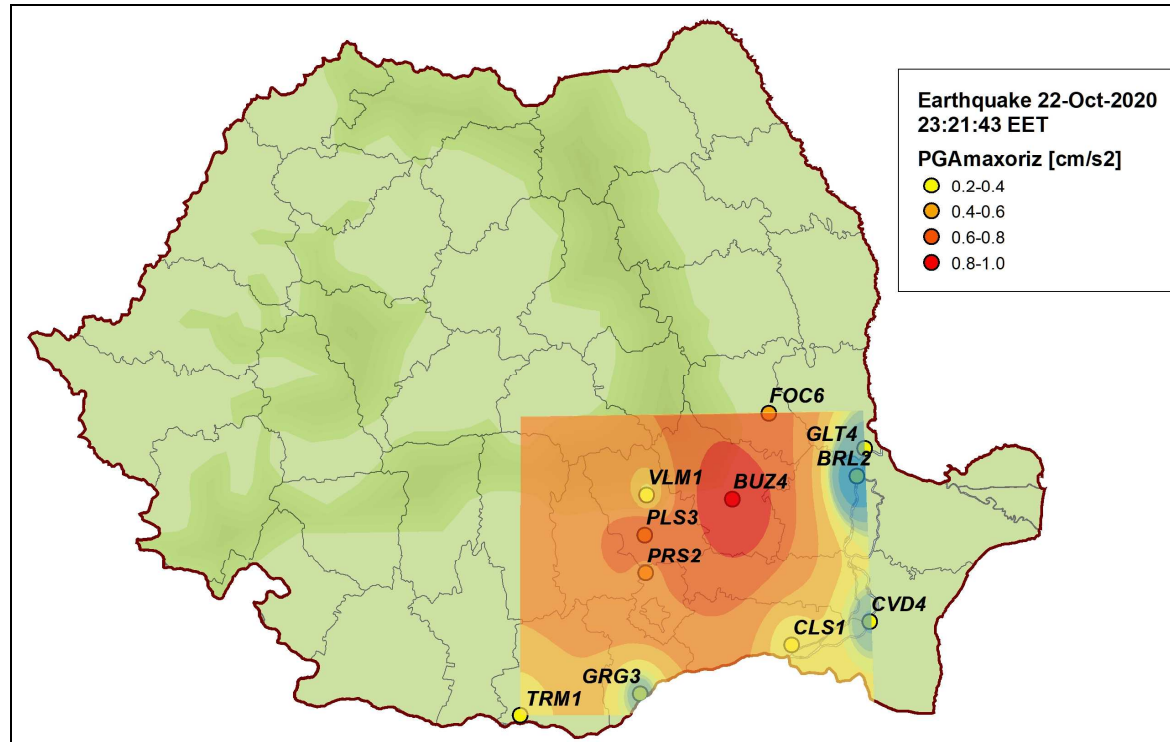
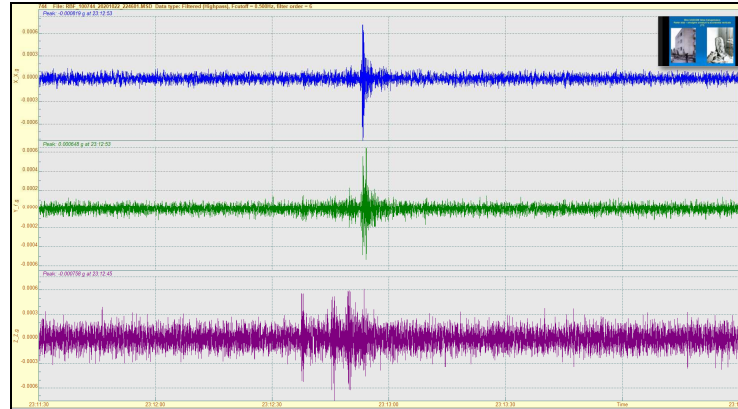
Objective 3 - 4.7

Objective 4 - 4.6

Average ranking 4.5

III. On October 22 and 23, two small earthquakes occurred in Eastern Romania.

Dr. Claudiu Sorin Dragomir prepared information about the stations that provided accelerographic records, from the URBAN-INCERC Strong Motion Seismic Network (64 apparatuses).



Expected Results - 2020

- Provide scientific and practical knowledge about the objectives of the new Strategy of Seismic Risk Reduction and create positive disaster risk reduction perception for school / educational facilities, addressed to professors, directors and administrative staff and local authorities employees, respectively.
- Receive educational materials and have exchange of experience on earthquake DRR with ECPFE Greece, Athens

Deliverables - 2020

Coordinator Centre ECBR, Bucharest, Romania:

- Reports of seminars and workshops to be distributed to the EUR-OPA Secretariat and partners
- Publication of training materials for schools staff and local authorities employees, as well as course support for seminar participants
- Partner 1 : ECPFE Greece, Athens - reports, recommendations, brochures, leaflets including expertise and educational materials for earthquake preparedness in schools and public institutions in Greece

Specific objectives in 2021

- Preparation of training materials and providing knowledge transfer on seismic risk reduction for hospitals / medical / sanitary facilities, addressed to directors, medical and administrative staff, by training seminars
- Knowledge transfer by training seminars on seismic risk reduction for staff of crowded facilities, using specifically developed materials.
- Exchange of experience with the associated center (ECPFE Greece, Athens).

Activities in 2021

Coordinator Centre: ECBR, Bucharest, Romania

Organization of an on-line training seminar on seismic risk reduction for hospitals / medical / sanitary facilities, addressed to directors, medical and administrative staff

- Date: May-June 2021, Duration: one day
- Venue: ECBR Hall at URBAN-INCERC
- Participants: about 40 persons

Organization of an on-line training seminar on seismic risk reduction for staff of crowded facilities

- Date: May-June 2021, Duration: one day
- Venue: ECBR Hall at URBAN-INCERC
- Participants: about 40 persons

Partner 1: ECPFE Greece, Athens

Attending seminars for providing expertise and educational materials to ECBR and participants for earthquake preparedness on specific risks reduction in hospitals / medical / sanitary facilities schools or public institutions and crowded facilities.

2021

- Provide scientific and practical knowledge about the objectives of the new Seismic Risk Reduction Strategy and create positive disaster risk reduction perception for hospital employees and staff of crowded facilities
- Receive educational materials and exchange experience on earthquake DRR with ECPFE Greece, Athens

Deliverables - 2021

Coordinator Centre ECBR, Bucharest, Romania:

- Reports of seminars and workshops to be distributed to the EUR-OPA Secretariat and partners
- Publication of training materials for hospital staff and staff of agglomerated facilities and course support text for seminars

Partner 1 : ECPFE Greece, Athens - reports, recommendations, brochures, leaflets including expertise and educational materials for earthquake preparedness in hospitals and crowded facilities.

REMARKS:

What has worked well and less well during the reporting period in terms of the strategies we have used to reach our key target groups

- ▶ ECBR members managed to turn some of the disadvantages of COVID-19 pandemic into advantages...
- ▶ Schools and kindergarten staff from the seismic areas of Romania was very attracted by the topics and by the on-line attendance. The number of applications exceeded all our expectations!
 - Women represented 75% in the schools session and 69% in the session for local authorities. We shall give more attention to gender pattern, since women may be a factor of faster risk reduction process
- ▶ Local authorities were less able to attend, because of the recent local elections and the change of the teams; however, the number of attendees was higher than planned
- ▶ The participants have their own perceptions about seismic risk, as it was proved by the ECBR surveys
- ▶ Concerning the seismic risk of their school / office building, the school staff is more precautionous, while local authorities staff are rather optimistic
- ▶ The objectives of the National Seismic Risk Reduction Strategy in preparation were highly appreciated and rated by the participants, with more emphasis on boosting the resilience
- ▶ We shall keep in touch with all participants and provide them support materials for training and dissemination to school students, families and population
- ▶ ECBR will further focus on the high seismic zones of the Eastern Romania

Steps that have been taken to ensure that the results of the project are sustained:

- Participants were stimulated by receiving Certificates of participation



- ECBR will preserve the stamina and the interest of school staff, by posting course materials on the ECBR / URBAN-INCERC website
- MLPDA and the team working on the draft of the National Seismic Risk Reduction Strategy will be informed about the opinions of the ECBR Seminars participants

Let's be protected of SARS-CoV-2...
...but let's be prepared for the
earthquake!



**URBAN
INCD
INCERC**

EUR-OPA
EUR-OPA MAJOR HAZARDS AGREEMENT
ACCORD EUR-OPA RISQUES MAJEURS



Take care !
Thank you !