

**Workshop: Disability and Disaster Preparedness - Toolkit Release**  
**Brussels, Belgium 21 May 2015**

# **DRR preparedness: Implementing an education and training strategy in case of earthquakes**

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# RISK

RISK =

(HAZARD PROBABILITY)\*(VULNERABILITY)\*(VALUE)

VULNERABILITY (V) =

$f$  (environment performance e.g. structures;  
people's behaviour (performance))

STRATEGY  $\longrightarrow$  Minimise losses

$\longrightarrow$  Reduce vulnerability

Low V  $\downarrow$  = High structural performance  $\uparrow$  (parameter 1)  
High people's behaviour  $\uparrow$  (parameter 2)

# **MINIMISE RISK**

**Example: Minimise the risk as a ship is sailing**

**Parameter 1: Structural performance**

- the ship will be strong enough not sink or be affected by storms**

**Parameter 2: People's behaviour**

- the best reaction of the crew and passengers**

# **EDUCATION and TRAINING**

New (?) Concept: **Design for all**

Consider

- Not only the general population
- All possible target groups



Account for the most vulnerable part of the population or the vulnerability characteristics of the target groups

# **EDUCATION and TRAINING**

**As an example from engineering thinking:**

**If in a structure there exists a vulnerable element such as a column or a beam, then the vulnerability will affect the integrity of the whole structure**

**Similarly, if in a community there exists a vulnerable group such as people with disabilities, children, the aged, migrants, etc., then vulnerability will affect the integrity of the whole community**

# **EDUCATION and TRAINING**

## **DESIGN FOR ALL: New Concept?**

**Part of a whole culture**

**Part of a holistic education**

**Part of a philosophy**

**In the Greek Language, there are two different words instead of one for “education”:**

***Εκπαίδευση* (Ekpethefsi) and *Παιδεία* (Petheia)**

# **EDUCATION and TRAINING**

*Εκπαίδευση* (Ekpethefsi):

- mainly knowledge offered at schools
- also includes training

*Παιδεία* (Petheia):

- general way of thinking
- philosophical global education
- build culture
- build behaviour
- build character

More intense for the very young

*Παιδεία* (Petheia) = global education

*Παιδί* (Pethei) = child

And also *Παίζω* (Pezo) = to play

*Μόρφωση* (Morphosi) = to give shape, form (morphology)

Design for all —→ Thinking as a community

Not “**me** and **mine**” but “**us** and **ours**”

# **FATALITIES IN PEOPLE WITH DISABILITIES**

## **EARTHQUAKES**

- **1982 COALINGA CALIFORNIA EARTHQUAKE, 38% OF INJURED PEOPLE CONTACTED AFTER THE EARTHQUAKE WERE DISABLED (ARONI AND DURKIN, 1985)**
- **2011 GREAT EAST JAPAN EARTHQUAKE, MORTALITY RATE FOR REGISTERED PEOPLE WITH DISABILITIES DOUBLE THAT OF THE GENERAL POPULATION (KIYOSHI HARADA, JAPAN DISABILITY FORUM, 2013)**
- **THOSE WITH VISUAL OR MOBILITY LIMITATIONS EXPERIENCE THE MOST DIFFICULTIES (TIERNEY ET AL., 1988)**



# Parameter 1: Structural Performance

<b>GOAL</b>	<b>Design, Construct, Redesign, Retrofit, Reconstruct in order to minimise (attacking) effects of actions from possible disaster sources (earthquakes, floods, fires, windstorms, volcanoes, ..... )</b>
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# Parameter 1: Structural Performance

In General → Provide **ENOUGH RESISTANCE** to withstand any possible disaster actions to an acceptable minimum level of damage

In Particular → Depending on the disaster source e.g. for earthquakes **MINIMISE DISPLACEMENTS**

TOOLS: **EDUCATION** and TRAINING

# Parameter 1: Structural Performance

## EDUCATION and TRAINING

Obviously it is addressed to:

- Engineers
  - Contractors
  - Workers
- > University studies
  - > Recommendations
  - > Technical Divisions
  - > Codes
  - > Seminars
  - > Research

# **Parameter 2: People's Behaviour**

## **AFTER A DESTRUCTIVE EVENT:**

- **A WHOLE REGION IS AFFECTED**
- **EMERGENCY SERVICES WILL BE SEVERELY STRETCHED**
- **THERE WILL BE MANY OTHER HIGHER PRIORITY LIFE THREATENING SITUATIONS**
- **IT MAY BE SEVERAL DAYS BEFORE A NORMAL LEVEL OF EMERGENCY SERVICES CAN BE PROVIDED**

# **Parameter 2: People's Behaviour**

**AFTER A DESTRUCTIVE EVENT:**

**THE WHOLE POPULATION**

- **CANNOT EXPECT ANY IMMEDIATE SPECIAL ASSISTANCE WITH EVACUATION**
- **THE WHOLE POPULATION MUST BE RESPONSIBLE FOR THEIR OWN EMERGENCY PLANNING AND EVACUATION**

**THEREFORE, MEASURES PERFORMED TO ASSIST PEOPLE WITH DISABILITIES MUST BE BASED ON EDUCATING THOSE AFFECTED TO BE SELF-RELIANT**

# Parameter 2: People's Behaviour

## GOAL

Educate and train people to minimise losses (mainly fatalities and injuries) from possible disaster sources (earthquakes, floods, fires, windstorms, volcanoes, ..... )

# Parameter 2: People Behaviour

In General → Achieve the best effective reaction from people in any disaster

In Particular → Specific measures depending on:

- the disaster source
- the different capabilities of the population

TOOLS: EDUCATION and TRAINING

# Parameter 2: People's Behaviour

## General Framework

*Παιδεία (Petheia):* —→ Equality in all aspects of life  
Start by focusing on the very young

*“Persons with disabilities have the right to live independently and participate fully in all aspects of life on an equal basis with others in information, communications and other services, including electronic services and **emergency services**.”*

*(Source: Article 9.1, UN convention on the rights of persons with disabilities)*

## Specific Actions

**ACTION 1: PREPARE A STRATEGY**

**ACTION 2: STRATEGY IMPLEMENTATION**

**FEEDBACK**

**REVISE**



# Parameter 2: People's Behaviour

## ACTION 1: PREPARE A STRATEGY

### Upper level task

Multidisciplinary Committee involving:

- Experts in disabilities
- Experts in earthquakes
- People with disabilities  
(at least one from every target group)
- Decision makers (politics)

# Parameter 2: People's Behaviour

## GOAL: PROPOSE AND PREPARE A WHOLE STRATEGIC PLAN

Under the obligatory rule: **Design for all**

- In general covering any possible disaster without distinguish which but with specific sessions for different disasters
- Specific parts (in any of the above sessions) for
  - People with disabilities
  - Other groups with special needs
- **CONSIDER**
  - Different possible disaster scenarios
  - Sources
  - National Organizational Structure

# Parameter 2: People's Behaviour

## WORK PLAN (indicative)

- **DATA**
  - Set up multiple WGs with specific objectives
  - Collect, process, evaluate
- Statistics of different target groups (numbers, registered or not, where they live, how they live (independent, assisted), etc.,)
- Previous real events (results) → How react
- Pilot applications (results ) → How react
- Research (results)
- Literature review
- Critical review
- findings

# Parameter 2: People's Behaviour

## ACTION 2: STRATEGY IMPLEMENTATION

### SET UP MULTIDISCIPLINARY WGs

- Prepare Educational Material
- Educate
- Train
- Textbooks, Booklets, Leaflets
- Videos
- Posters
- TV spots
- e-learning
- Websites
- Seminars

# Parameter 2: People's Behaviour

## PREPARING EDUCATIONAL MATERIAL AND TRAINING

- GUIDANCE PREPARED FOR THE GENERAL POPULATION IS NOT SUITABLE FOR PEOPLE WITH DISABILITIES

NECESSARY TO REWRITE CERTAIN MEASURES DEPENDING ON TARGETED DISABILITY

- MATERIAL IDENTIFIES SPECIFIC MEASURES AND BEHAVIOUR DEPENDING ON THE SPECIFIC CAPABILITIES OF THE TARGET GROUP

TWO MAIN CATEGORIES:

1. NO PROBLEM WITH UNDERSTANDING

- MOBILITY IMPAIRMENT
- VISUAL IMPAIRMENT/BLINDNESS
- HEARING IMPAIRMENT/DEAFNESS

2. PROBLEM WITH UNDERSTANDING

- COGNITIVE IMPAIRMENT – SPEECH COMMUNICATION IMPAIRMENT

- BEFORE START DRAFTING

COLLECT GENERAL AND SPECIFIC DATA

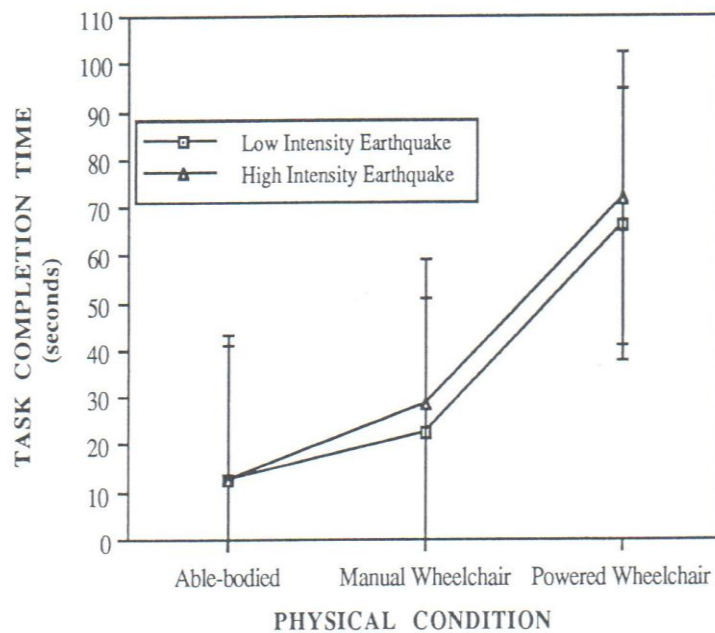


Figure 3. Mean and standard errors for task completion time as a function of physical condition and earthquake intensity

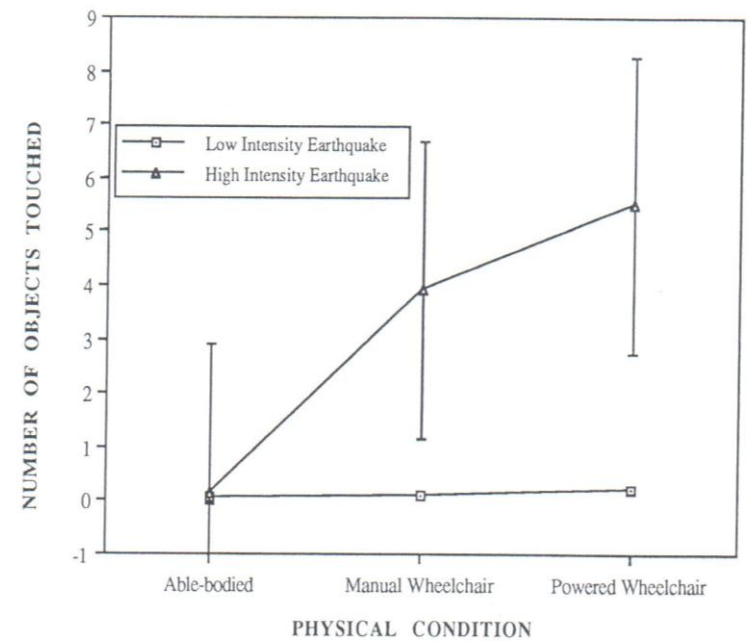


Figure 4. Mean and standard errors for number of objects touched as a function of physical condition and earthquake intensity

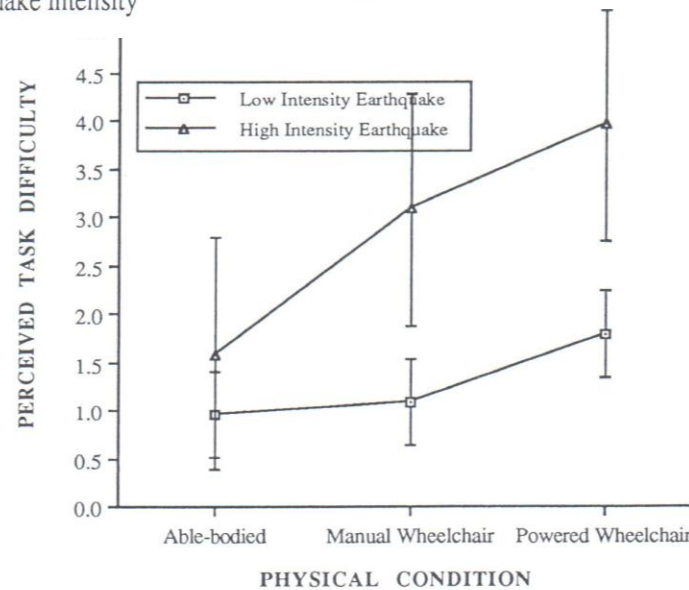


Figure 5. Mean and standard errors for perceived task difficulty rating as a function of physical condition and earthquake intensity

Source: Mansour Rahimi, "Behavior of Mobility- Disabled People in Earthquakes: A Simulation Experiment", Earthquake Spectra, Vol. 10, No.2, p.p. 381-401, 1994

# **PREPARING EDUCATIONAL MATERIAL AND TRAINING**

## **PROCEDURE**

- **PREPARE FIRST DRAFT**
- **MAKE PILOT APPLICATION** on the targeted disability group
- **OBTAIN FEEDBACK** concerning difficulties in implementation and better operation, **EVALUATE** and **ASSESS**
- **REDRAFT ACCORDINGLY**
- **DISSEMINATE, EDUCATE, TRAIN**
- **OBTAIN FEEDBACK** (permanent on-line form for comments)
- **REGULAR REVIEW AND POSSIBLE REVISION**

## Parameter 1: Structural Performance - Education

### EARTHQUAKES

## EDUCATE Engineers for Design for All

- GLOBAL APPROACH
- INVOLVES THE CONCEPTS OF ACCESSIBILITY, UNIVERSAL DESIGN AND INCLUSIVE DESIGN
- INCLUDES EVERYBODY REGARDLESS OF RESTRICTIONS
- NOT ONLY GENERAL POPULATION
  - INCLUDES PEOPLE WITH DISABILITIES
  - INCLUDES THE AGED AND CHILDREN
  - CROSSES LANGUAGE BARRIERS
    - MIGRANTS
    - REFUGEES
    - ASYLUM SEEKERS
- AT THE PRESENT MOMENT, MOST DESIGNERS, ENGINEERS AND ARCHITECTS IGNORE THE CONCEPT



## EARTHQUAKES

# **PRIMARY DESIGN RULES FOR LIFE SAFETY**

(Addressed at Education of Engineers and Decision Makers)

## EARTHQUAKES

### **PRIMARY DESIGN RULES FOR LIFE SAFETY**

(Addressed at Education of Engineers and Decision Makers)

- **ROBUSTNESS - REDUNDANCY**

Alternative load-paths

## EARTHQUAKES

### **PRIMARY DESIGN RULES FOR LIFE SAFETY**

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- **ROBUSTNESS - REDUNDANCY**

Alternative load-paths

- **LIMITED DAMAGE ACCEPTABLE – FAILURE UNACCEPTABLE**

### EARTHQUAKES

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- **ROBUSTNESS - REDUNDANCY**

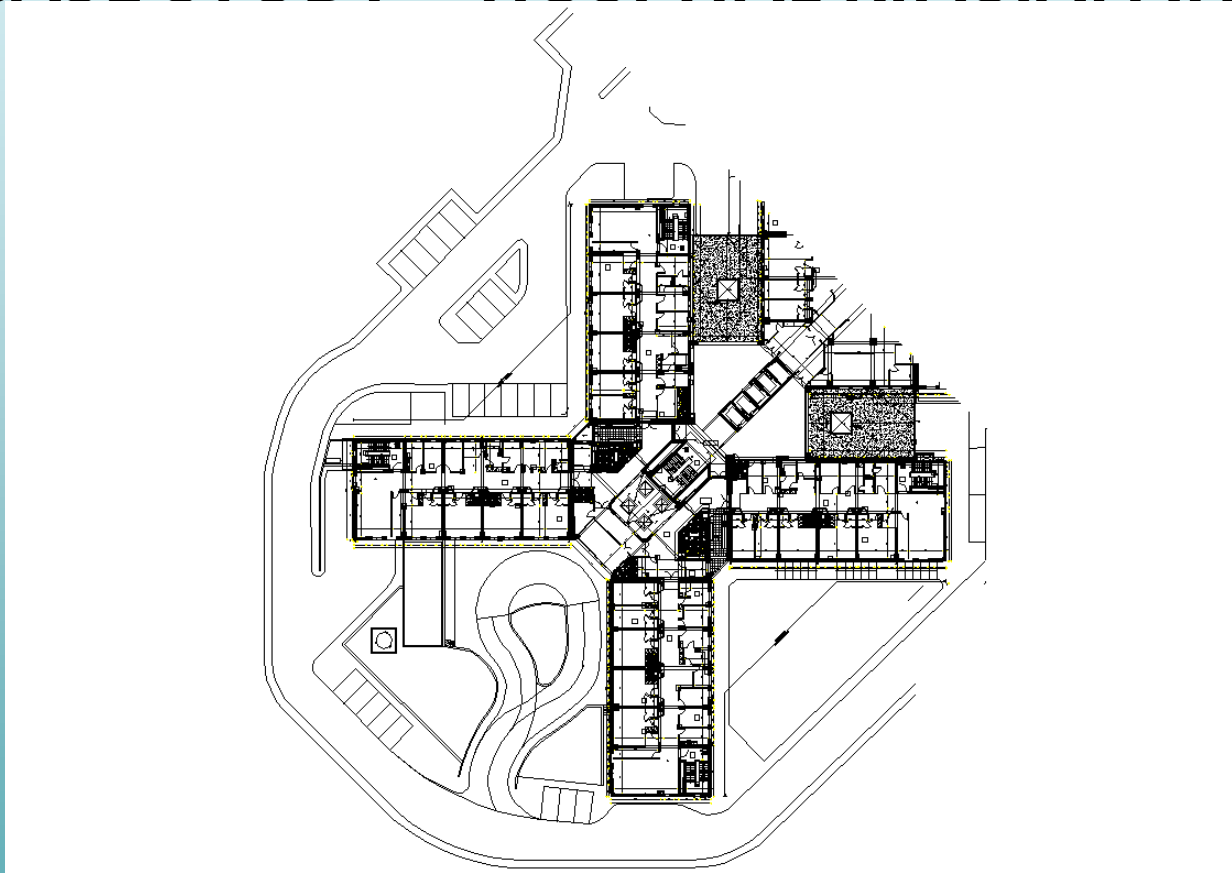
Alternative load-paths

- **LIMITED DAMAGE ACCEPTABLE – FAILURE UNACCEPTABLE**

- **PROVIDE SPECIFIC AREAS FOR SAFE REFUGE (overdesigned)**

Earthquake proof shelters and rescue rooms accessible for all

# EARTHQUAKES STRUCTURAL DESIGN FOR ALL CASE STUDY – HOSPITAL KIFISIA. ATHENS

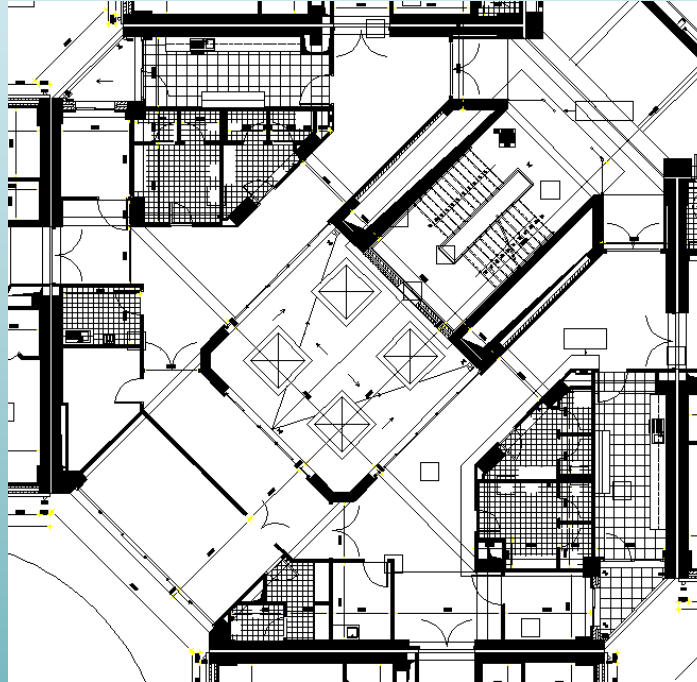


**NEW  
DESIGN  
FOR ALL  
CONCEPT**

- **NO DEAD ENDS**
- **SHORT TRAVEL DISTANCES**

(DESIGN OFFICE <http://www.koumoulos.com>, PATRAS, GREECE)

# **EARTHQUAKES STRUCTURAL DESIGN FOR ALL CASE STUDY – HOSPITAL KIFISIA, ATHENS**



**NEW  
DESIGN  
FOR ALL  
CONCEPT**

- **INDEPENDENT STRONG RESILIENT CENTRAL CORE**
- **SEISMIC GAP, SEPARATION OF BUILDINGS' STRUCTURES**
- **LARGE AREA FOR SAFE REFUGE**

“AGIOI ANARGYROI” GENERAL ONCOLOGY HOSPITAL KIFISIA (DESIGN  
OFFICE <http://www.koumoulos.com>, PATRAS, GREECE)

### EARTHQUAKES

## PRIMARY DESIGN RULES FOR LIFE SAFETY

(Addressed at Education of Engineers and Decision Makers)

- **ROBUSTNESS - REDUNDANCY**

Alternative load-paths

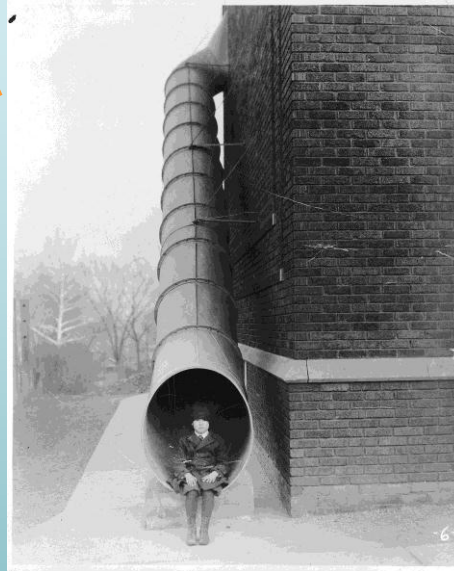
- **LIMITED DAMAGE ACCEPTABLE – FAILURE UNACCEPTABLE**

- **PROVIDE SPECIFIC AREAS FOR SAFE REFUGE (overdesigned)**  
Earthquake proof shelters and rescue rooms accessible for all

- **DESIGN EVACUATION MEASURES FOR ALL**

Emergency lifts, emergency doors, fire doors, specific evacuation tools for people with disabilities (in general term)

## DESIGN: Emergency Evacuation



([http://en.wikipedia.org/wiki/Escape\\_chute](http://en.wikipedia.org/wiki/Escape_chute))



(<http://www.snapitude.net/?p=1489>)

Spiral inside to limit  
descent speed



### EARTHQUAKES

#### **PRIMARY DESIGN RULES FOR LIFE SAFETY**

(Addressed at Education of Engineers and Decision Makers)

- **ROBUSTNESS - REDUNDANCY**

Alternative load-paths

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- **DESIGN EVACUATION MEASURES FOR ALL**

Emergency lifts, emergency doors, fire doors, specific evacuation tools for people with disabilities (in general terms)

- **CONSIDER FUNCTIONALITY DURING AND AFTER AN EARTHQUAKE**

Design earthquake resistant furniture depending on specific disabilities

# **EARTHQUAKES FATALITIES**

## **MOST FATALITIES NOT FROM STRUCTURAL DAMAGE**

**It has been reported (Jones et al., 1990 for the Loma Prieta earthquake and Barque et al., 1991 for Whittier Narrows earthquake) that the majority of fatalities and injuries were mostly affected by how people behaved during or immediately after the earthquake and the fatalities and injuries were caused by people falling down or being hit by non structural elements and building contents.**

## Parameter 1: Structural Performance - Education





## Parameter 1: Structural Performance - Education



## Parameter 1: Structural Performance - Education



**Fatalities can also occur without serious damage to the building**

## Parameter 1: Structural Performance - Education



**Fatalities can also occur without damage to the building**



## Parameter 1: Structural Performance - Education



**Fatalities can also occur without damage to the building**

## Parameter 1: Structural Performance - Education



**Fatalities can also occur without damage to the building**  
**Mind to get under the table when you feel shaking from an earthquake**

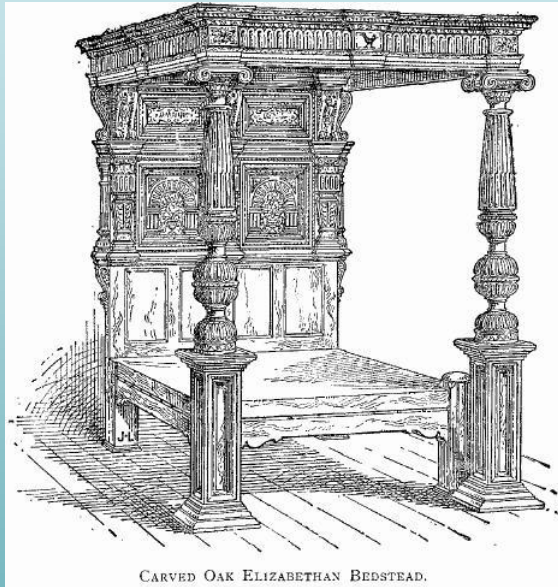


## Parameter 1: Structural Performance - Education

# EXAMPLE: EARTHQUAKE RESISTANT BED

Recommended for people with mobility impairments but also for other cases

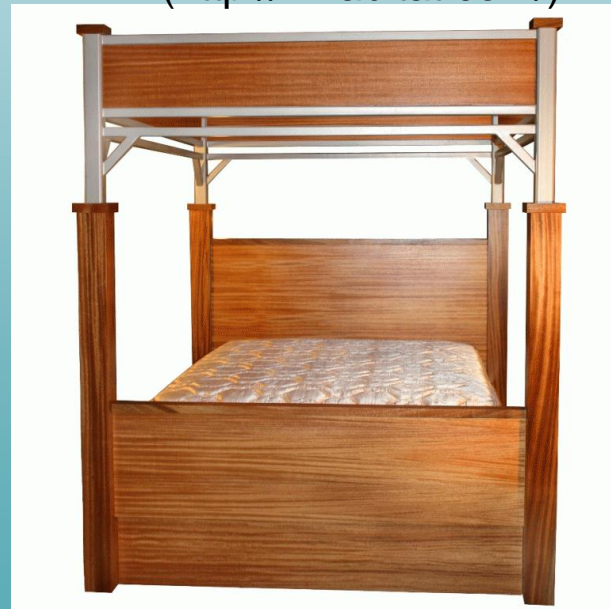
Enclosed beds with a strong roof



Four poster bed



(<http://inhabitat.com/>)



([http://www.lifeguardstructures.com/order/index.php?dispatch=products.view&product\\_id=48](http://www.lifeguardstructures.com/order/index.php?dispatch=products.view&product_id=48))<sup>41</sup>

## **IN CONCLUSION**

**TWO MAIN APPROACHES IN EARTHQUAKE DESIGN EDUCATION:**

**1. CONVENTIONAL DESIGN**

**INCREASE IN STIFFNESS OF THE BUILDING TO MINIMISE THE  
DISPLACEMENT OF IT'S ELEMENTS**

**2. INNOVATIVE DESIGN**

**SEISMIC ISOLATION:**

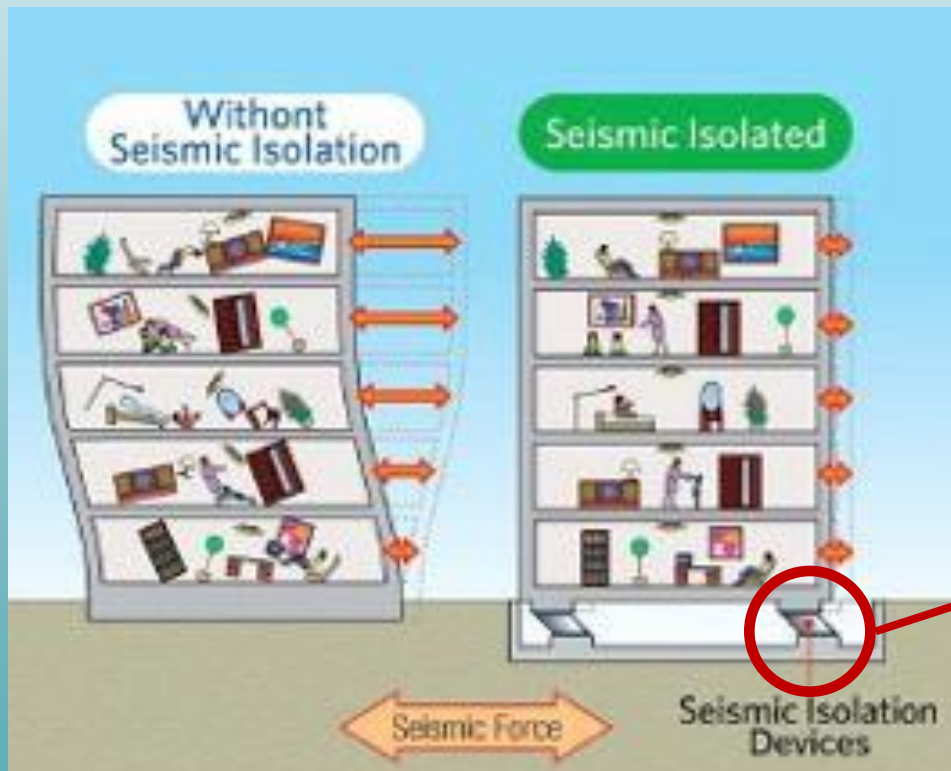
**PROVISION OF “SEISMIC BREAKER” (AS A FUSE) INHIBITS THE  
TRANSFER OF MOTION TO THE STRUCTURE**

**BOTH PREVENT DAMAGE TO STRUCTURAL  
AND NON-STRUCTURAL ELEMENTS**

# EARTHQUAKES

**EDUCATE** ENGINEERS, DECISION MAKERS, CONTRACTORS, WORKERS

## SOLUTION: SEISMIC ISOLATION



### E.P.P.O. – E.C.P.F.E. Actions

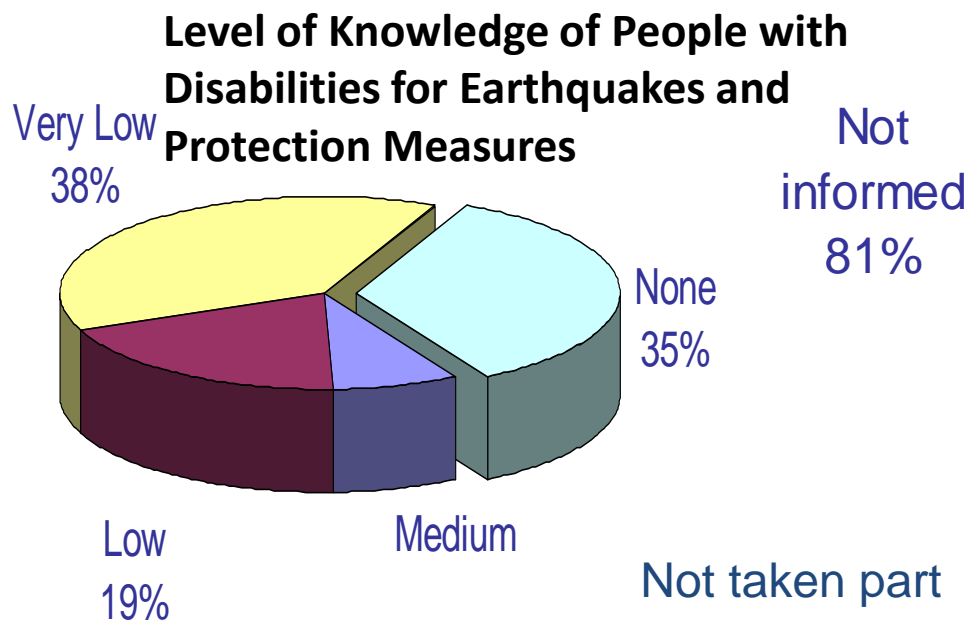
#### Working towards **disability** equality

- ▶▶ Research in the framework of the Project: POLITEIA
- ▶▶ Textbook : “Learning about earthquakes and Earthquake Protection Measures – Guidelines for People with Disabilities” (*in Greek and in English*)
- ▶▶ Booklet 1 : (in easy-to-read method), “Earthquakes often happen in Greece. All of us should know what to do when an earthquake strikes” (*in Greek and in English*)
- ▶▶ Booklet 2: (in Makaton language) “Learning what to do in an earthquake” (*in Greek and in English*)
- ▶▶ Leaflet 1: “Be prepared for an earthquake: instructions for people with mobility impairment ” (*in Greek*)
- ▶▶ Leaflet 2: Be prepared for an earthquake: Instructions for the Network staff supporting people with mobility impairment” (*in Greek*)
- ▶▶ Information – Dissemination (lectures, seminars, posters, e-learning Platform, etc.)
- ▶▶ Education - Earthquake Drills

## Parameter 2: People's Behaviour – Education

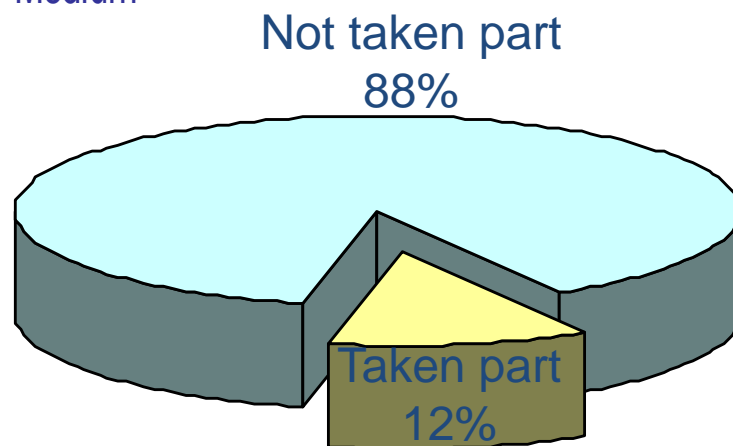
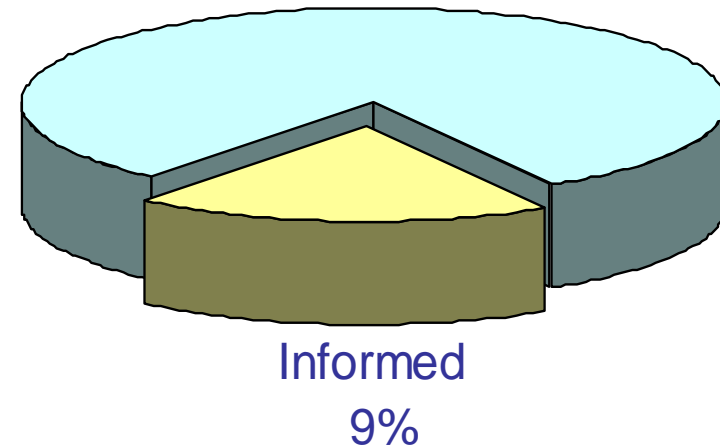
### E.P.P.O. – E.C.P.F.E. Actions

## SURVEY



Not informed  
81%

**People with Disabilities who have been informed about Earthquake Protection Measures**



**People with Disabilities who have taken part in Earthquake Drills**

According to a SURVEY\* carried out by E.P.P.O, in the Framework of the Project POLITEIA, (March 2008)

Source: C. Gountromixou, L. Pelli, E. Lekkas and S. Dritsos, "Earthquake Protection Policy for People with Disabilities" Workshop: Including People with Disabilities in Disaster Preparedness and Response, EUR-OPA, European Council, Paris, 2013.

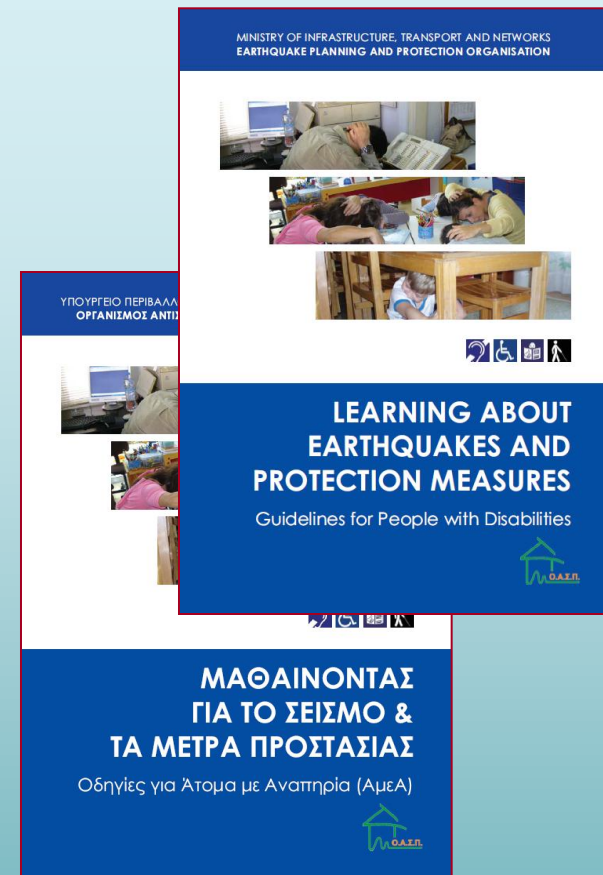


## Parameter 2: People's Behaviour – Education

### E.P.P.O. – E.C.P.F.E. Actions

#### TEXTBOOK

- ▶▶ addresses People with Disabilities
    - Mobility impairments
    - Visual impairments/Blindness
    - Hearing impairments/Deafness
    - Cognitive impairments – Speech Communication impairments
  - ▶▶ is divided into two parts:
    - ▶▶ information about earthquakes
    - ▶▶ earthquake protection measures
  - ▶▶ specific guidelines for each type of disability are listed differently
- The textbook :
- ▶▶ has been translated into Braille by E.P.P.O. and the Organization:  
“Lighthouse for the Blind of Greece”



Source: C. Gountromixou, L. Pelli, E. Lekkas and S. Dritsos, “Earthquake Protection Policy for People with Disabilities” Workshop: Including People with Disabilities in Disaster Preparedness and Response, EUR-OPA, European Council, Paris. 2013.

## TEXTBOOK

**Classified into three sections:**

**▶▶ Protection measures before earthquakes**

(What you should do from 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)

# Booklet

## “easy-to-read” method



Earthquakes often happen in Greece. All of us should know what to do when an earthquake strikes



Στην Ελλάδα γίνονται συχνά σεισμοί για αυτό όλοι μας πρέπει να ξέρουμε τι κάνουμε όταν γίνεται σεισμός



ΑΘΗΝΑ 2015

URE, TRANSPORT AND NETWORKS  
PROTECTION ORGANIZATION (E.P.P.O.)  
REVENTION AND FORECASTING  
JAKES (E.C.P.F.E.)



ΥΠΟΥΡΓΕΙΟ ΥΠΟΔΟΜΩΝ, ΜΕΤΑΦΟΡΩΝ ΚΑΙ ΔΙΚΤΥΩΝ  
ΟΡΓΑΝΙΣΜΟΣ ΑΝΤΙΣΕΙΣΜΙΚΟΥ ΣΧΕΔΙΑΣΜΟΥ ΚΑΙ ΠΡΟΣΤΑΣΙΑΣ (Ο.Α.Σ.Π.)



ΕΥΡΩΠΑΪΚΟ ΚΕΝΤΡΟ ΠΡΟΛΗΨΗΣ ΚΑΙ ΠΡΟΓΝΩΣΗΣ ΣΕΙΣΜΩΝ (Ε.Κ.Π.Π.Σ.)



# Be ready for an earthquake

## Before an earthquake I talk with my family and carers

- ▶ We agree on the open place to meet at when the earthquake stops and we leave the building.



- ▶ I make a card with my name and the telephone numbers of my family and carers. I keep this card with me at all times.



- ▶ I ask to do earthquake drills.



## An earthquake is happening What should I do?

- ▶ When an earthquake happens and I am in a house, at school or at work, I go under a sturdy table or desk. I hold onto its leg.



- ▶ If there isn't a table or desk near me, I go to the middle of the room that I am in. I crouch down and cover my head with my hands.



- ▶ When an earthquake happens and I am outside, I stay away from buildings.



## The earthquake stops What should I do?

- ▶ I only use the stairs.



- ▶ I exit the building. I do not run.



- ▶ I go to the meeting place to meet my family, teachers or co-workers.



# Booklet MAKATON language



Learning what to do in an earthquake



Μαθαίνω τι να κάνω στον σεισμό



ΑΘΗΝΑ 2015



ΥΠΟΥΡΓΕΙΟ ΥΠΟΔΟΜΩΝ, ΜΕΤΑΦΟΡΩΝ ΚΑΙ ΔΙΚΤΥΩΝ  
ΟΡΓΑΝΙΣΜΟΣ ΑΝΤΙΣΕΙΣΜΙΚΟΥ ΣΧΕΔΙΑΣΜΟΥ ΚΑΙ ΠΡΟΣΤΑΣΙΑΣ (Ο.Α.Σ.Π.)



ΕΥΡΩΠΑΪΚΟ ΚΕΝΤΡΟ ΠΡΟΛΗΨΗΣ ΚΑΙ ΠΡΟΓΝΩΣΗΣ ΣΕΙΣΜΩΝ (Ε.Κ.Π.Π.Σ.)

STRUCTURE, TRANSPORT AND NETWORKS  
PROTECTION ORGANIZATION (E.P.P.O.)  
PREVENTION AND FORECASTING  
QUAKES (E.C.P.F.E.)



Before an earthquake



I talk about earthquakes with the people who care for me.

I talk about the meeting place.



I have a card with my name and

the phone numbers of the people who care for me.



Learning what to do in an earthquake

There is an earthquake



I go under a sturdy table.

I hold onto the leg of the table.



If I am not near a table,

I kneel down and cover my head with my hands.

The earthquake stops



I use the stairs to go down.



I go outside calmly.

I don't run.



I go to the meeting place.

This book has been translated from the Greek version. The symbols used are mainly from the Greek Makaton vocabulary. To be used in another country, the symbols must be adapted according to each country's Makaton vocabulary.



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EUROPEAN CENTRE ON PREVENTION AND FORECASTING OF EARTHQUAKES (E.C.P.F.E.)

# EUR-OPA Conference on including people with disabilities in disaster preparedness and response, Brussels, December 2014

Vaia Arsenopoulou: Earthquakes: Guidelines for People with Intellectual Disabilities using the Easy-to-Read method and Makaton symbols

## Why two different booklets?

### Similarities:

- Simple language without losing essential information.
- Short sentences with a lot of repetition.
- Visual support using photographs.

### Differences:

- Each method addresses people with different abilities in receiving written information –minimal reading skills for Easy to Read & pre-reading skills for Makaton.
- Vocabulary selection criteria
  - Reading difficulties related to the phonemic structure of words (Easy to Read)
  - Visualization difficulties of an abstract concept with a representational symbol (Makaton)

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## Target Groups

- The **Easy to Read** booklet addresses people with mild to moderate intellectual disability.
- The **Makaton** booklet addresses people with moderate to severe intellectual disability with or without autism.
- Although the pilot studies were performed on these 3 target groups, the flexibility of both the Easy to Read method and the Makaton symbols makes it possible for both the booklets to be used by anyone who has **minimum reading comprehension skills** in the case of Easy to Read or **pre-reading skills** in the case of Makaton.

# **EUR-OPA Conference on including people with disabilities in disaster preparedness and response, Brussels, December 2014**

Vaia Arsenopoulou: Earthquakes: Guidelines for People with Intellectual Disabilities using the Easy-to-Read method and Makaton symbols

## **Design Process**

- Earthquake specialists outline the technical details essential to be included.
- Working group narrow down the information content considered essential to be included, keeping in mind the ease of conveying the message.
- Information processed in groups including PWD (various groups consisting of 10-15 teenagers or adults with varying degrees of intellectual disability).
- Information content was analyzed and separated into before, during & after an earthquake sections.
- Creation of the 1<sup>st</sup> draft of the text followed by trials.
- Difficulties were encountered with the structure of the text, with the significance of some points and with some of the symbols.

# **EUR-OPA Conference on including people with disabilities in disaster preparedness and response, Brussels, December 2014**

Vaia Arsenopoulou: Earthquakes: Guidelines for People with Intellectual Disabilities using the Easy-to-Read method and Makaton symbols

## **Design Process**

- Changes incorporated into the text. All information which caused comprehension difficulties was expressed with simpler words and less abstract words & symbols.
- Finalization of working draft which corresponds to reading and comprehension skills of target group.
- Trials with the target groups, check for understanding.
- Results and feedback from trials incorporated into 2<sup>nd</sup> working draft.
- Careful planning of new photographs to be taken (based on feedback from target groups to use photographs not sketches & also based on difficulties experienced with the previous edition's photos).
- The Easy-to-Read target groups specified which points needed to be supported by photos or sketches as well as the content of the photos.
- Re-trials with the new photos
- Final draft



# Parameter 2: People's Behaviour – Education

## E.P.P.O. – E.C.P.F.E. Actions

### LEAFLETS

Leaflet 1: "Be prepared for an earthquake: instructions for people with mobility impairment"



άζοντας τις οδηγίες αυτού του φυλλαδίου και έχοντας προετοιμα-  
στάλληλα, μπορείς να προστατευτείς όσο γίνεται καλύτερα σε πε-  
ρίπτωση που βιώσεις σεισμό και να επανέλθεις γρήγορα στην πριν τον  
σεισμό κατάσταση.



Leaflet 2: Be prepared for an earthquake: Instructions for the networks supporting people with mobility impairment"



ΟΡΓΑΝΙΣΜΟΣ  
ΕΥΡΩΠΑΪΚΟ



ΟΡΓΑΝΙΣΜΟΣ ΑΝΤΙΣΕΙΣΜΙΚΟΥ ΣΧΕΔΙΑΣΜΟΥ & ΠΡΟΣΤΑΣΙΑΣ (Ο.Α.Σ.Π.)  
Εδρα: 32, Ν. Ηρώδου 154 51 – Τηλ. 210 67 28 000, Fax 210 67 79 561  
e-mail: info@oasp.gr – www.oasp.gr

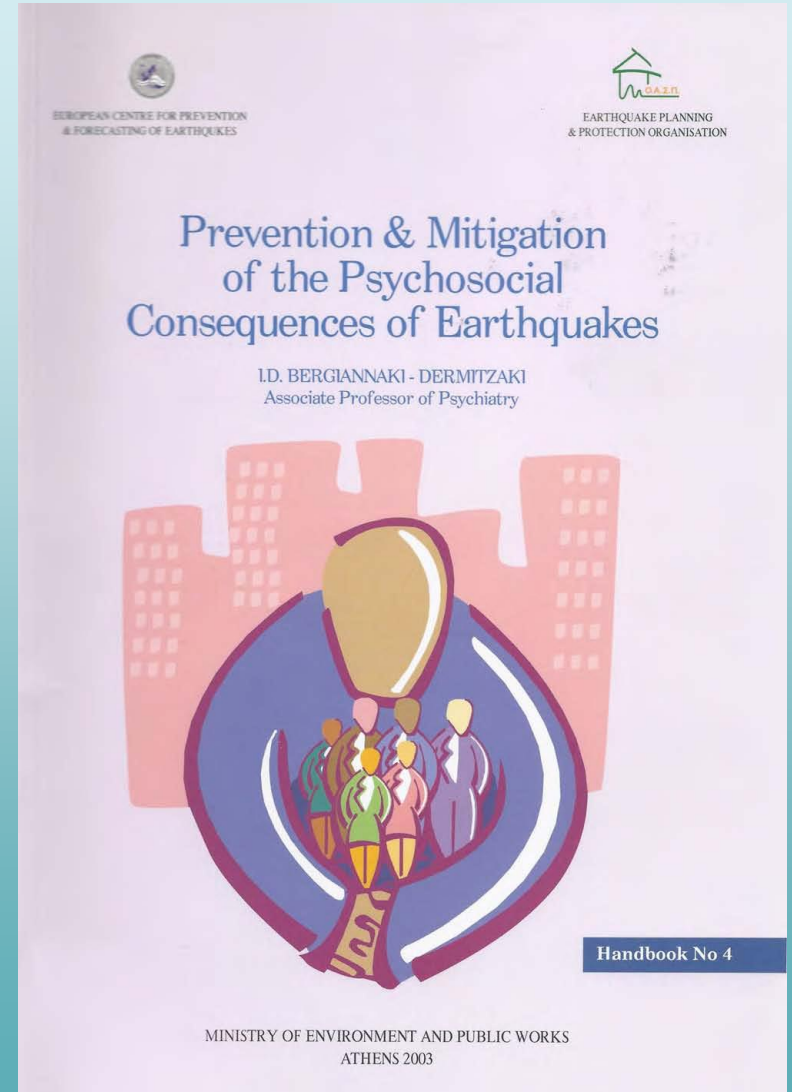
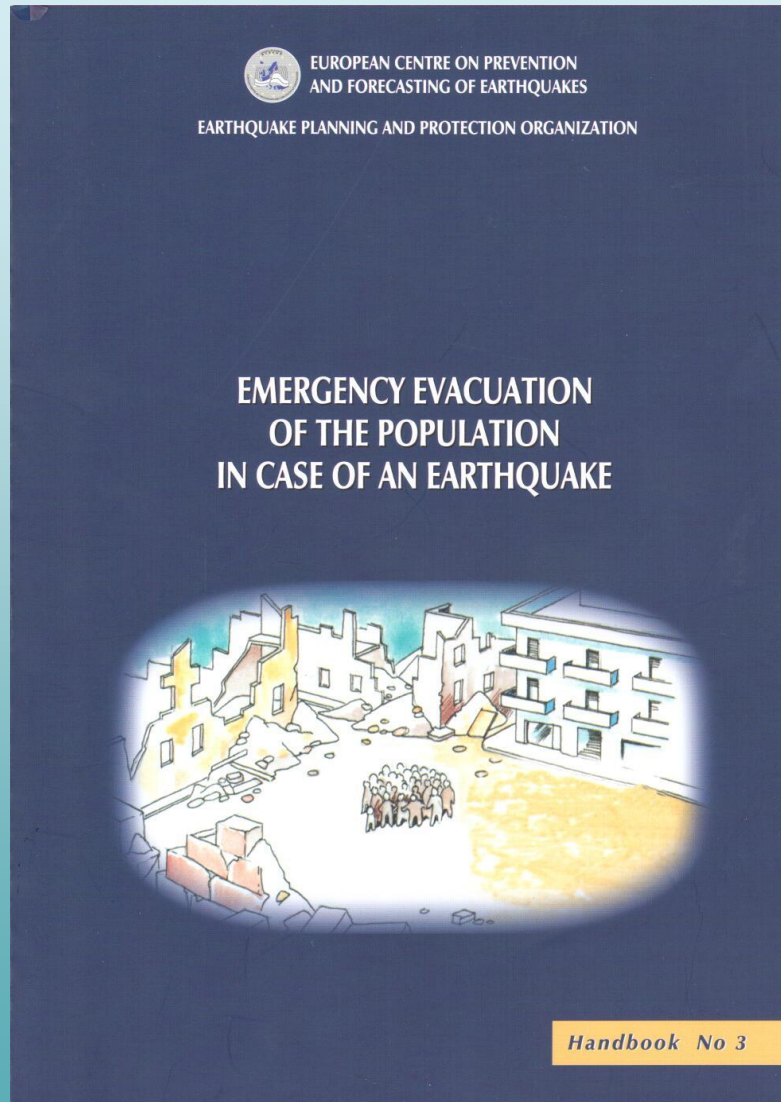


ΕΥΡΩΠΑΪΚΟ ΚΕΝΤΡΟ ΠΡΟΛΗΨΗΣ  
ΚΑΙ ΠΡΟΓΝΩΣΗΣ ΣΕΙΣΜΩΝ (Ε.Κ.Π.Π.Σ.)





### OTHER PUBLICATIONS



## Parameter 2: People's Behaviour – Education

### E.P.P.O. – E.C.P.F.E. Actions

An e-learning platform was designed to host this educational material

 [Contact](#), [Available Manuals](#), [Login](#)

English 



Ο.Α.Σ.Π.  
Οργανισμός Αντισεισμικού  
Σχεδιασμού και Προστασίας



Ευρωπαϊκό Κέντρο  
Πρόληψης και Πρόγνωσης Σεισμών

Search

Home page

Basic Options

» [User Registration](#)

### ECPFE - Asynchronous Teleteaching Platform

The ECPFE designed this platform in order to include the educational material of the booklet “Learning about Earthquakes and Protection Measures”, which was edited and published by EPPO. This booklet is addressed specifically to People with cognitive impairments, blindness, deafness and mobility impairments. The aim of this action is to educate and inform People with Disabilities through e-learning about protection measures against earthquake.

User login

Username

Password

Enter

[Forgot your password?](#)



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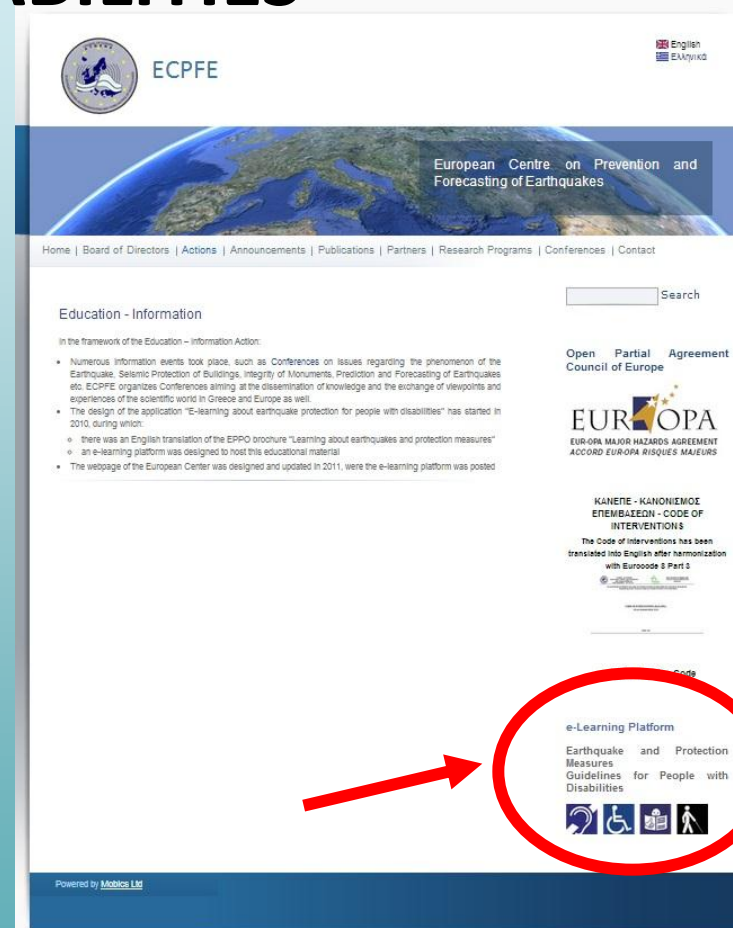
POWERED BY  
OPENeCLASS

Source: C. Gountromixou, L. Pelli, E. Lekkas and S. Dritsos, “Earthquake Protection Policy for People with Disabilities” Workshop: Including People with Disabilities in Disaster Preparedness and Response, EUR-OPA, European Council, Paris, 2013.

## E.P.P.O. – E.C.P.F.E. Actions

### ECPFE website – ON LINE QUESTIONNAIRE FOR INDIVIDUALS WITH DISABILITIES

A questionnaire for an e-learning application in Greek and English languages has been created, so as to educate and inform People with Disabilities



Source: C. Gountromixou, L. Pelli, E. Lekkas and S. Dritsos, "Earthquake Protection Policy for People with Disabilities" Workshop: Including People with Disabilities in Disaster Preparedness and Response, EUR-OPA, European Council, Paris, 2013.



Parameter 2: People's Behaviour – Education

E.P.P.O. – E.C.P.F.E. Actions

Training- Earthquake Drills



Mobility impairment

Before: identify and remove any hazards from your surroundings



During:  
Lock the brake of your wheelchair  
Cover your head & neck with your hands



After: Evacuate the building



Source: C. Gountromixou, L. Pelli, E. Lekkas and S. Dritsos, "Earthquake Protection Policy for People with Disabilities" Workshop: Including People with Disabilities in Disaster Preparedness and Response, EUR-OPA, European Council, Paris, 2013.

## Parameter 2: People's Behaviour – Education

### E.P.P.O. – E.C.P.F.E. Actions

# Training - Earthquake Drills



blindness

**Before:** Organise a Personal Support Network



**During:** Cover your head & neck with your hands

**After:** Evacuate the building using the stairs with the aid of the caregiver

Source: C. Gountromixou, L. Pelli, E. Lekkas and S. Dritsos, "Earthquake Protection Policy for People with Disabilities" Workshop: Including People with Disabilities in Disaster Preparedness and Response, EUR-OPA, European Council, Paris, 2013.



# Training- Earthquake Drills



**Very young and multi-disability cases**



**During:** Cover your head & neck with your hands and if this is not possible with the aid of the caregivers

**After:** Evacuate the building with the aid of the caregivers



# Training - Earthquake Drills



Cognitive Impairment

**During:** Cover your body under sturdy furniture, holding its leg with your hands



**After:** evacuate the building, avoid using the elevators

Source: C. Gountromixou, L. Pelli, E. Lekkas and S. Dritsos, "Earthquake Protection Policy for People with Disabilities" Workshop: Including People with Disabilities in Disaster Preparedness and Response, EUR-OPA, European Council, Paris, 2013.



## Training - Earthquake Drills





## Parameter 2: People's Behaviour – Education

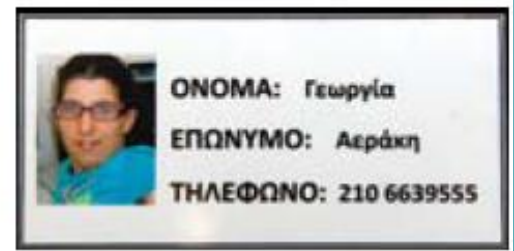
### E.P.P.O. – E.C.P.F.E. Actions

# Training - Earthquake Drills



E.P.P.P. – E.C.P.F.E. Actions

## Training - Earthquake Drills





**E.P.P.O. – E.C.P.F.E. Actions**

**Training - Earthquake Drills**



**Adamides Adamos** *“Education and Training Material for People with Disabilities – Data Collection”*, Part of Diploma Thesis, Dept. of Civil Engineering, University of Patras, 2015.

Educational Material for Emergency Preparedness							
Country	Organization	Type	Name	Beneficiaries targeted	Location	By	Comments
USA	Federal Emergency Management Agency (FEMA) <a href="http://www.fema.gov">http://www.fema.gov</a>	Preparedness Videos	"Preparedness" a video in sign language	Deaf or Hearing Impairment	<a href="https://www.fema.gov/media-library/assets/videos/83008">https://www.fema.gov/media-library/assets/videos/83008</a>	Robert Kaufmann - Jul 08, 2013	Annmarie Buraczeski represents the New Jersey Association of the Deaf and also the Community Emergency Response Team (CERT). In this video she shares her personal experience with Superstorm Sandy and talks about what steps to take in preparation for a storm.
			Preparing Makes Sense for People with Disabilities and Other Access and Functional Needs	Deaf or Hearing, Blind or Visual, Mobility and Cognitive impairment	<a href="http://www.fema.gov/media-library/assets/videos/78827">http://www.fema.gov/media-library/assets/videos/78827</a>	Aaron Skolnik - Dec 30, 2011	A unique instructional video containing information specific to Americans with disabilities or other access and functional needs regarding emergency preparedness.
			Emergency Preparedness Tips in Sign Language	Deaf or Hearing Impairment	<a href="https://www.youtube.com/watch?v=ZAy9DVfgZpM&amp;feature=youtu.be">https://www.youtube.com/watch?v=ZAy9DVfgZpM&amp;feature=youtu.be</a>	Ready Georgia from GEMA	
			FEMA Community Relations Address Special Needs	Deaf or Hearing Impairment	<a href="https://www.fema.gov/media-library/assets/videos/73878">https://www.fema.gov/media-library/assets/videos/73878</a>	Mark Meytin - Nov 17, 2008	FEMA Community Relations Specialists attend a deaf and hard of hearing community event. Using American Sign Language translators, applicants who had been affected by Hurricane Ike speak with the CR personnel to have their FEMA related questions answered. - Location: Houston, TX

# MOBILITY IMPAIRED IN ANCIENT GREECE?



## VASE PAINTING

(<http://www.crfaster.com.br/Cadeira%20Rodas.htm>)

# **ANCIENT GREECE**

## **PEOPLE WITH DISABILITIES**

- **ATTAINED HIGH SOCIAL POSITIONS OF RESPONSIBILITY (KINGS, POETS, ETC.)**
- **WERE NOT CONSIDERED AS BEING DISABLED**
- **MADE MAJOR WELL RECOGNISED CONTRIBUTIONS TO SOCIETY**

**THEY WERE REPRESENTED BY A GOD  
(HEPHAESTUS)**

# ANCIENT GREEK OLYMPIAN GOD HEPHAESTUS



30 Hephaistos on a winged throne. Cup by the Ambrosios Painter, towards 510. Berlin, Pergamonmuseum F 2273.

Schefold, K., Gods and Heroes in Late Archaic Greek Art. English translation by A. Griffiths. (Cambridge, 1992))

- **POSSIBLE FIRST RECORDED EXAMPLE OF A WINGED WHEELCHAIR OR CHARIOT**
- **INVENTOR: THE GOD HEPHAESTUS!**



# ANCIENT GREEK OLYMPIAN GOD

## HEPHAESTUS

Greek mythology did not involve special revelations or spiritual teachings. It had no formal structure such as a church hierarchy and there was no written code such as a sacred book (Guisepi, 2001). Greek Gods resembled humans and human behaviour. Their most striking features were their human traits such as anger, jealousy, love, wisdom, knowledge, etc. Consequently, it is easy to see that the Ancient Greek Gods reflected Ancient Greek society. In this light, contrary to modern day beliefs depicting the Gods as being at the peak of physical perfection, strength and beauty, it is not surprising to find that one of the twelve Olympian Gods was disabled. Disabled Greek God Hephaestus was the inventor God, he married the Goddess of beauty Aphrodite (Venus) making the God Jealous.



**THANK YOU FOR YOUR ATTENTION**