

# **Bridging the Gap Between Knowledge and Action: Making Disaster Prevention Stick**

**Pat Reid Annual Lecture  
North West University,  
Potchefstroom, South Africa**

**Marla Petal**

**January, 2009**



## Sticky Ideas are:

**S**imple  
**U**nexpected  
**C**oncrete  
**C**redible  
**E**mootional  
**S**tories



Chip Heath & Dan Heath, *Made to Stick*

# Sticky Ideas are:

**Simple**

:



## Sticky Ideas are:

**U**nexpected

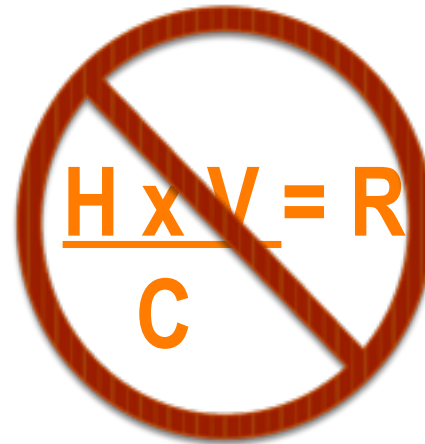


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**PUBLIC  
AWARENESS**

***NECESSARY BUT  
NOT SUFFICIENT***



No “natural” ever since we discovered that human beings impact climate.

Risk a) + b) probability

Danger / Threat / Risk / Hazard: translate me

Vulnerable: permanent judgment based on stereotype - ‘we’ label ‘them’ / disempowering





**DISASTER  
RISK  
REDUCTION**

**APPLY THE  
GRANDMA  
TEST**



**DISASTER  
PREVENTION  
EDUCATION**





***“All spheres of government, all sectors of society and every professional discipline has a responsibility to consider how it can contribute to reducing risk within its own sphere of responsibility.***

***Every citizen can contribute to disaster risk reduction by thinking safety and acting safely.”***



***“All spheres of government, all sectors of society and every professional discipline has a responsibility to consider how it can contribute to reducing risk within its own sphere of responsibility.*”**

***Every citizen can contribute to disaster risk reduction by thinking safety and acting safely.”***

*Introduction to the  
South African Disaster Management Act  
(2002)*

# Traditional *Temporal* Disaster Cycle



Actual chart from FEMA website.



Actual website.

**DISASTERS ≠ emergencies**

**THINGS WE CAN CHANGE**

**things we can't change**

# Disaster *Reduction* Cycle

Mitigate Risks  
& Prepare for Response



Marla Petal - Risk RED, 2007

Based on G. Selvaduray - San Jose State University, 2004

## Sticky Ideas are:

**C**oncrete



:



**PERSONALIZE  
IT**



## It Can Happen to You

- YOU can be killed
- YOU can be disabled
- YOU can be injured
- YOU can lose your home
- YOU can lose your job
- YOU can lose your community
- YOU can lose a loved one



# Family / School / Workplace

## School Disaster Reduction & Readiness CHECKLIST

### ACTION STEPS

1. Convene local school safety committee representing administration, faculty, staff, students and parents, and local community.
2. Study the school safety planning and action steps below together.
3. As needed assign sub-groups or individuals to be responsible for investigating and making recommendations for each task.
4. Create plan based on task group recommendations.
5. Implement the plan, involving the whole school community, setting milestones and taking action steps to achieve risk reduction and response preparedness.
6. Communicate and coordinate as needed with education authorities using the resources and support available, and advising them of resource and support needs.
7. Review and revise the plan as necessary, at least annually.
8. Be sure to keep all staff, parents/guardians, and students advised about the plan.

### ASSESSMENT & PLANNING

- An ongoing school safety committee has been established to lead disaster risk reduction and disaster response planning in our school. We hold regular meetings (including staff, parents/guardians, students and local community leaders) to develop and review our mitigation, preparedness and response plans.
- We have learned about local resources and assets (e.g. fire extinguishers, first aid kits, people with response skills, generator, ladder, search & rescue equipment) available in the community nearby from private and public sources, and discussed shared use of resources post-disaster.
- We have researched historical events and current scientific studies and considered all of the different hazards that could affect us. We are aware of the needs of vulnerable groups or individuals such as young children, students with disabilities, and language minorities, as well as the concerns of staff, students, parents and community.
- We have site and neighborhood maps and have identified alternate staging and evacuation locations.
- We have assessed and are addressing physical risks posed by buildings, building non-structural elements and building contents, and hazards in our neighborhood.
- We have evacuation plans, including safe assembly areas, evacuation routes, safe havens and alternatives, buddy system. Student transportation systems have plans to take students to nearest safe school in case of disaster during student commute. Parents/guardians are informed of location of all possible safe havens for reunification. The evacuation plan has been shared with the nearest police, fire and hospital officials and established communication and understanding in advance of emergency situations.
- We have established a communication system for emergencies, including a warning system wherever appropriate. All necessary contact information is available for emergency response and family reunification.
- We have established student release procedures to ensure that children are released only to adults approved by parents/guardians.
- If needed we have planned to provide emergency shelter for our local community.
- We have a plan for educational continuity for our students including alternate locations to continue classes, alternate schedules and methods of instruction as needed and secure back-up of educational records.
- We have plans and regular contact with local news media (radio, newspapers, television) to communicate planning and emergency messages to families, and to use our school-based activities to promote risk reduction community-wide.
- We provide significant practical local disaster risk awareness and reduction activity at all age levels, through school-based activities and projects and/or through the formal curriculum.
- We encourage staff and students to prepare for disasters at home and provide support material for doing so.
- We have insurance coverage to pool economic risks.



Risk RED: Risk Reduction Education for Disasters (May 15, 2008)  
www.riskred.org P.1

### PHYSICAL PROTECTION

- Our building has been located appropriately, designed and built according to current building codes/safety standards for disaster safety, and inspected by a qualified structural engineer.
- The building has been checked by local fire department for fire safety.
- If our school required repair or retrofit, this has been completed without minimal disruption of education.
- We practice preventative maintenance on our buildings, protecting them from damp and other damage, and repairing damage when it occurs.
- Earthquake, windstorm: We have fastened tall and heavy furniture, secured computers, televisions and other electronic equipment, hazardous materials, supplies, propane gas tanks, water tanks, lighting fixtures, roof elements, railings and parapets, heating and cooling devices, storage tanks and other items that could kill, injure, or impair educational continuity. We have put latches on cabinets, and hung pictures securely on closed hooks to protect ourselves from injury and financial losses.
- Flood, storm, tornado: We know about early warning systems in use in our community and have plans to respond to these in order to move people and assets to safety.
- We have smoke detectors, fire alarms, automatic sprinkler systems, fire hoses, fire extinguishers, and automatic emergency lighting, and maintain these. Our building exit routes are marked.
- We have limited, isolated, and secured any hazardous materials to prevent spill or release.
- We have off-site back-up of critical information, including student emergency contacts and release permissions.
- School transportation is inspected for safety and drivers and students are trained in respective safety skills. Seat belts, helmets and other transportation safety measures are advocated and promoted.

### RESPONSE CAPACITY: SUPPLIES & SKILLS

- We have guidelines for and we hold post-disaster drills to practice safety skills with all staff and students at least twice a year. We have a buddy system for those needing help. We follow basic building evacuation rules: "Don't talk. Don't run. Don't push. Don't go back". We hold simulation exercises at least once a year where operational teams practice response organization as well as procedures and skills in damage assessment, information-sharing, light search and rescue, first aid, fire suppression and family reunification. We discuss and improve on our practice.
- We have skills and practice building evacuation drills twice yearly as well as applicable drills for the threats faced (e.g. first aid skills for life safety, drop, cover, and hold for earthquakes, water safety and swimming skills for floods, shelter-in-place for violent threats).
- We have access to reliable external information sources on disasters and to an internal communication system. We have practiced receiving updates on emergency situations, warning our community and informing the relevant authorities.
- We have emergency supplies for students and staff to last for at least the first 72 hours (including at least 12 liters of water per person, food, first aid supplies, emergency power, emergency lighting, alternate communications, alternate transportation, shelter and sanitation supplies) (Students can be asked to bring emergency supplies bag at the beginning of each year, and take it home again at the end of the school year).
- School staff and older students have and learn response skills including: first aid, mass casualty triage, light search and rescue, fire suppression, wireless communication, psychological first aid, emergency power operation, student release procedures, shelter, nutrition, and sanitation skills.
- School staff know how to turn off our electricity, water and gas.
- We have a standard organizational system and know the principles for organizing post-disaster self-help.
- We have identified resources for psychosocial support if needed.
- We have plans to use our resources for mutual aid and to support local community response.



Risk RED: Risk Reduction Education for Disasters (May 15, 2008)  
www.riskred.org P.2



**UNIVERSALIZE  
IT**

# Disaster Prevention by and for Everyone

## 1. ASSESSMENT & PLANNING



## 2. PHYSICAL & ENVIRONMENTAL PROTECTION



## 3. RESPONSE CAPACITY DEVELOPMENT



NOTE: This knowledge is THERAPEUTIC.

CHALLENGE: To institutionalize it so that it lasts across generations.

# Assessment & Planning



**MACRO**  
Govt/Policy

**MESO**  
Institution

**MICRO**  
Household

## *At School:*

- Assess risks and vulnerabilities
- Administrator and staff **training**
- Conduct **regular drills**
- Keep **emergency** medical, water, food and shelter **supplies** in container on-site.
- Include **emergency contact information** for secure release.
- Maintain “**go-bag**” in each classroom.
- Develop **first response skills**.

## *At Home:*

- Have a **family meeting**
- Conduct a **hazard hunt**
- Identify **exit routes**
- Choose **meeting places**
- Select **out-of-area contact**
- **Copy** important **documents**
- Identify **dangerous places**
- Discuss **physical safety plan**
- Learn & practice **response skills**
- Collect **response provisions**



# Physical & Environmental Protection

MACRO  
Govt/Policy

MESO  
Institution

MICRO

Household



- DESIGN & BUILD TO CODE
- RE-MODEL TO CODE
- MAINTAIN BUILDING
- SECURE LIFE-THREATENING OBJECTS
- PROTECT ECONOMIC ASSETS
- PROTECT CULTURAL HERITAGE
- MAINTAIN FIRE SUPPRESSION TOOLS
- PRACTICE FIRE PREVENTION
- KEEP EXIT PATHWAYS CLEAR

# Response Capacity Development



**MACRO**  
Govt/Policy

**MESO**  
Institution

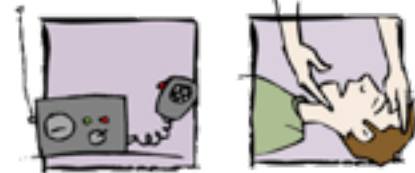
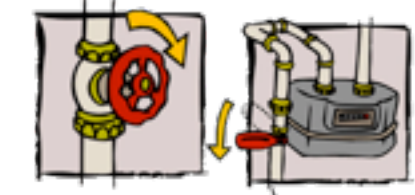
**MICRO**

Household



## SKILLS

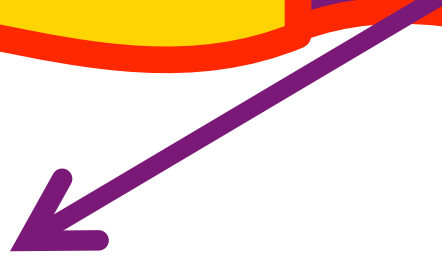
- NO OPEN FLAMES
- FIRE SUPPRESSION
- LEARN TO SWIM / LIFE JACKETS
- TURN OFF UTILITIES
- DO NOT USE THE TELEPHONE
- DISASTER FIRST AID
- BUILDING EVACUATION
- LIGHT SEARCH AND RESCUE
- HAM RADIO COMMUNICATIONS
- SHELTER, SANITATION, NUTRITION
- RESPONSE ORGANIZATION
- PSYCHOSOCIAL RESPONSE
- DROP, COVER & HOLD ON



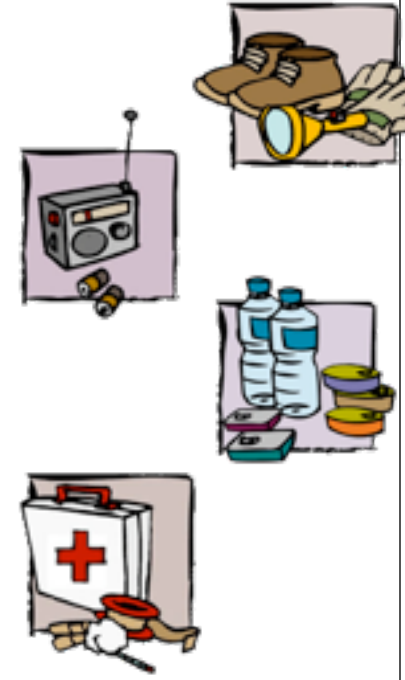
# Response Capacity Development



## PROVISIONS



- KEEP SHOES , FLASHLIGHT, GLOVES BY BED (AX/LIFE-JACKETS IN ATTIC)
- MAINTAIN FIRST AID KIT
- KEEP WATER (4L/PERSON x 7)
- KEEP LONG-LIFE, HIGH ENERGY FOODS
- BATTERY OPERATED RADIO
- FLASHLIGHT WITH EXTRA BATTERIES

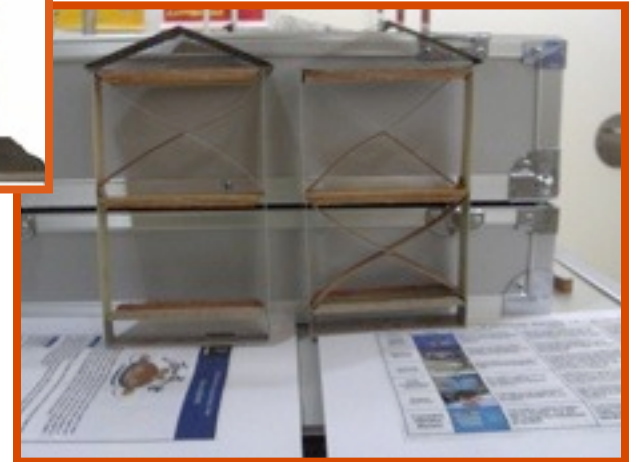
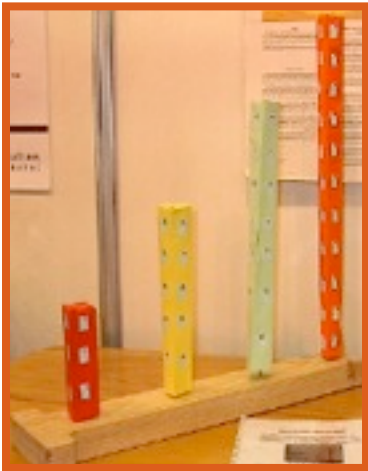
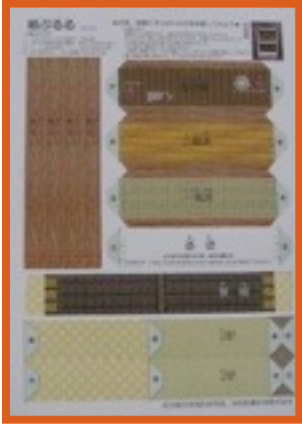






**VISUALIZE  
IT**

# Disaster Prevention Education: Demonstrations, Hands-On Models



# Disaster Prevention Education: Samples / Models





**BRING IT  
TO LIFE!**

# Disaster Prevention Education: Shake-Table Demonstrations



SHELTER FOR LIFE

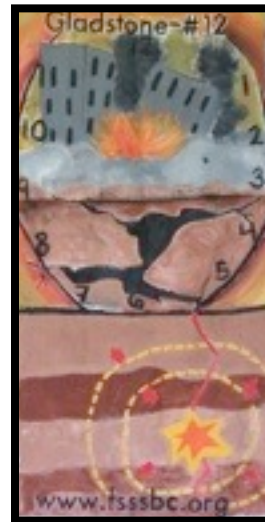
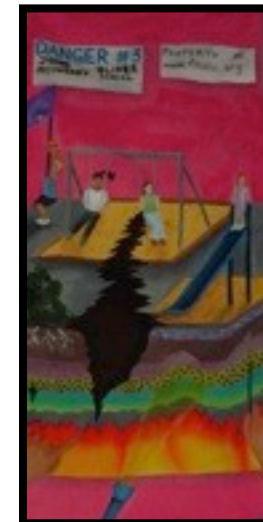
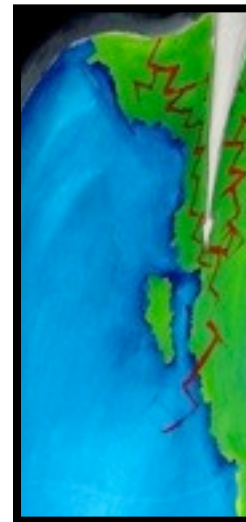
# Disaster Prevention Education: Drills & Simulations



# Disaster Prevention Education: Folklore, Performing Arts, Live Lessons, Radio Drama, Assemblies, Special Meetings



# Disaster Prevention Education: Exhibits, Festivals, Competitions





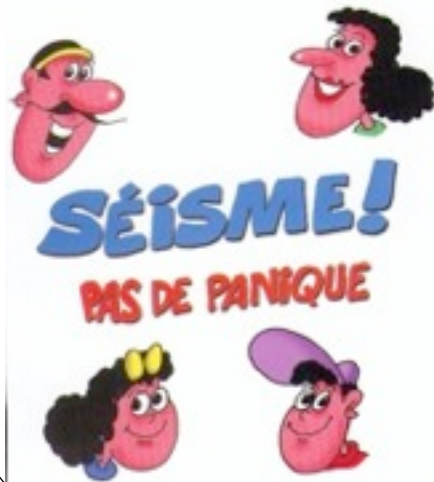


**INVEST IN  
EDUCATIONAL  
MATERIALS**

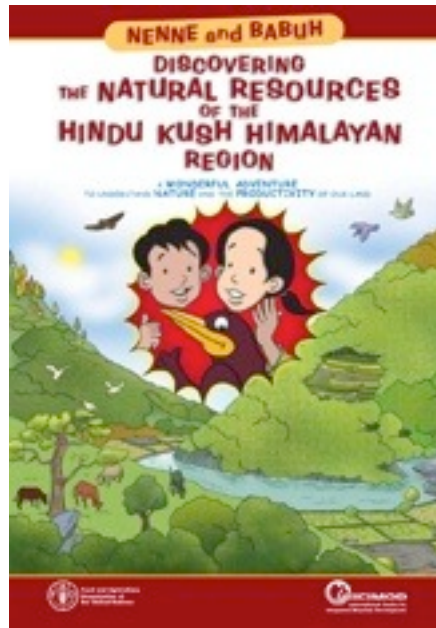
# Disaster Prevention Education: Campaigns, Characters, Mascots



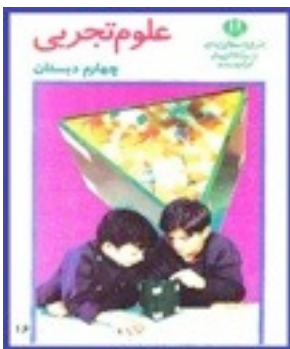
WHAT'S THE PLAN STAN?



# Disaster Prevention Education: Comic & Activity Books



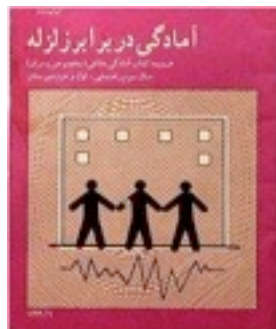
# Disaster Prevention Education: Curriculum Materials



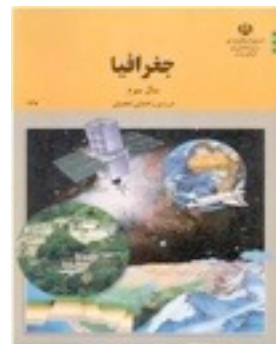
Science book  
Earthquake Prep



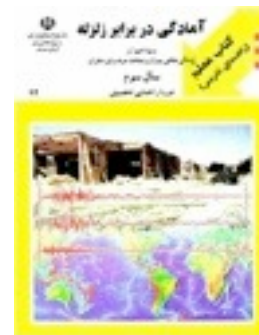
Earth Science



Earthquake Preparedness



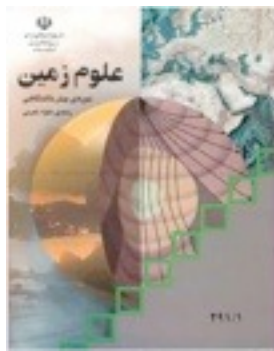
Geography



Teacher's Guidebook



Technology & Career  
Earthquakes



Earth Science



Building Materials



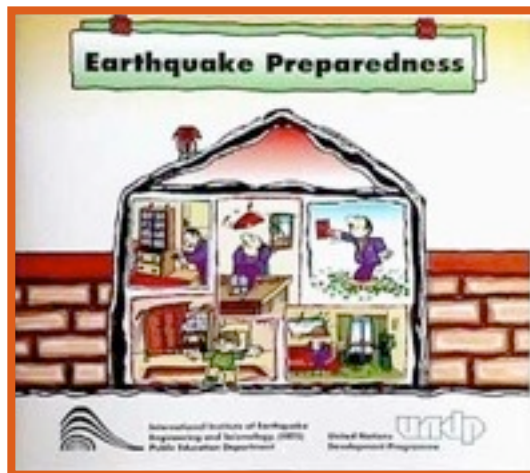
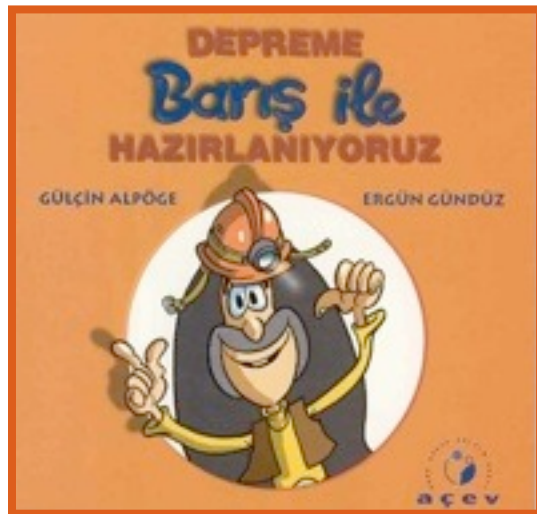
Construction Technology



Social Studies



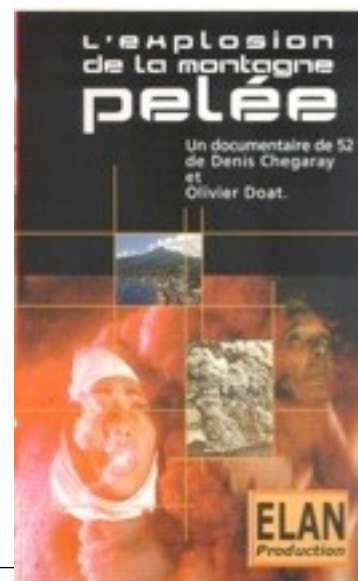
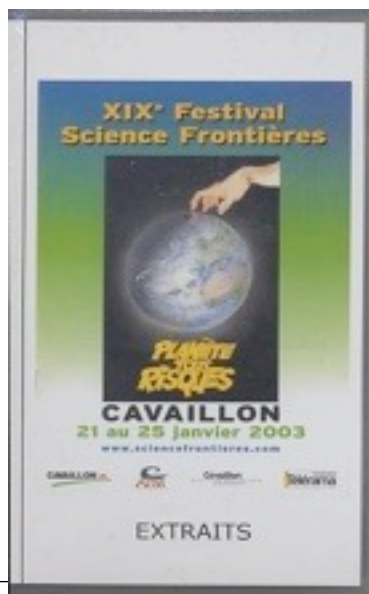
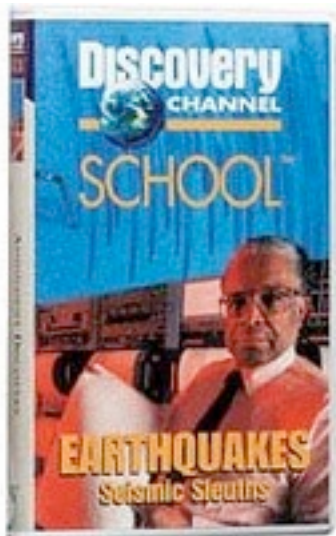
# Disaster Prevention Education: Children's Books



# Disaster Prevention Education: Toys & Games



# Disaster Prevention Education: Cartoons, Videos, CD Roms



# Disaster Prevention Education: Classroom Activities



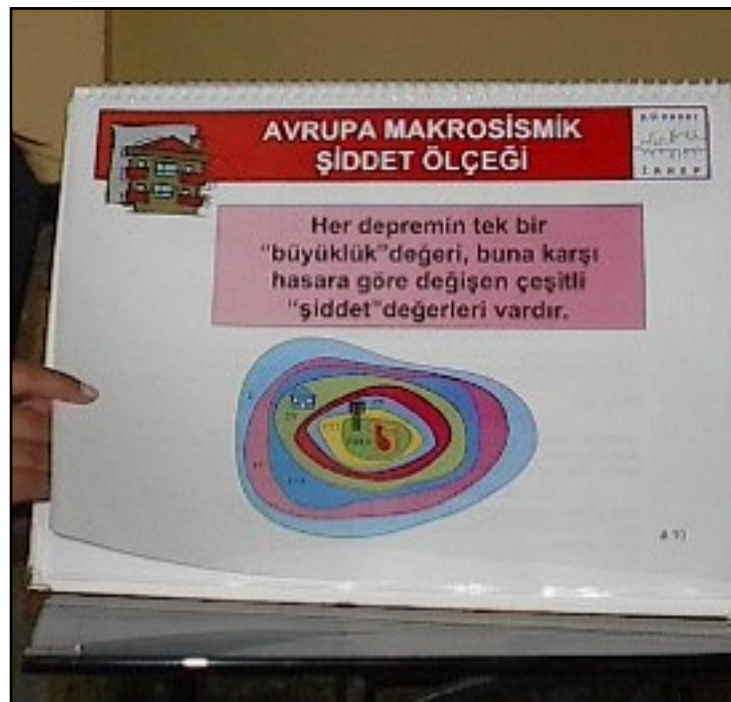




# Disaster Prevention Education: Instructor Materials



CD's



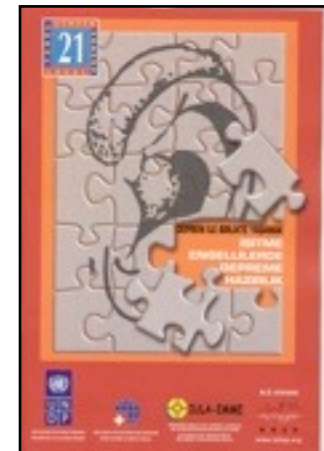
Flipcharts



Instructor  
Handbooks



# Disaster Prevention Education: Outreach to People with Disabilities



## Sticky Ideas are:

**C**redible



:



**EVIDENCE-  
BASED**

**CROSS  
DISCIPLINES**

**CROSS  
SECTORS**

**Communication  
Public Health  
Marketing  
Pedagogy**

**PARTNER  
and  
CO-LOGO!!**



# USE SOCIAL MARKETING APPROACHES

**PRODUCT**  
**PRICE**  
**PLACE**  
**PROMOTION**  
**POLITICS**

**External Factors:** Policies,  
Access, Skills. Consequences,  
Cultural Beliefs/Values

**Internal:** Knowledge/Beliefs,  
Attitudes. Perceived Risk.  
Perceived Consequences.  
Self-Efficacy





**EVALUATE  
&  
IMPROVE IT**

~~REINVENT  
THE  
WHEEL~~

WRITE LESS  
READ MORE

WRITE FOR  
POPULAR  
AUDIENCES



**DO MORE  
PARTICIPATORY  
ACTION  
RESEARCH**



**FIGHT FOR  
SERVICE  
TO COUNT**

**Sticky Ideas are:**

**E**mootional



:



**CHILD-LED  
DISASTER  
PREVENTION**

# Child-Led Disaster Prevention



- The Children of Sta Paz. Philippines

# Parent-Led Disaster Prevention

- Families for Schools Seismic Safety, Vancouver, Canada
- Women in Umraniye, Istanbul
- Grandmothers in Kazakhstan
- Elders on the Indian Ocean island
- Bereaved parents in Sichuan





**CELEBRATE  
HIDDEN  
HEROES**



# School Principal-Led Disaster Prevention

**Mr. Ye Zhiping**, Sangzao Middle School, China

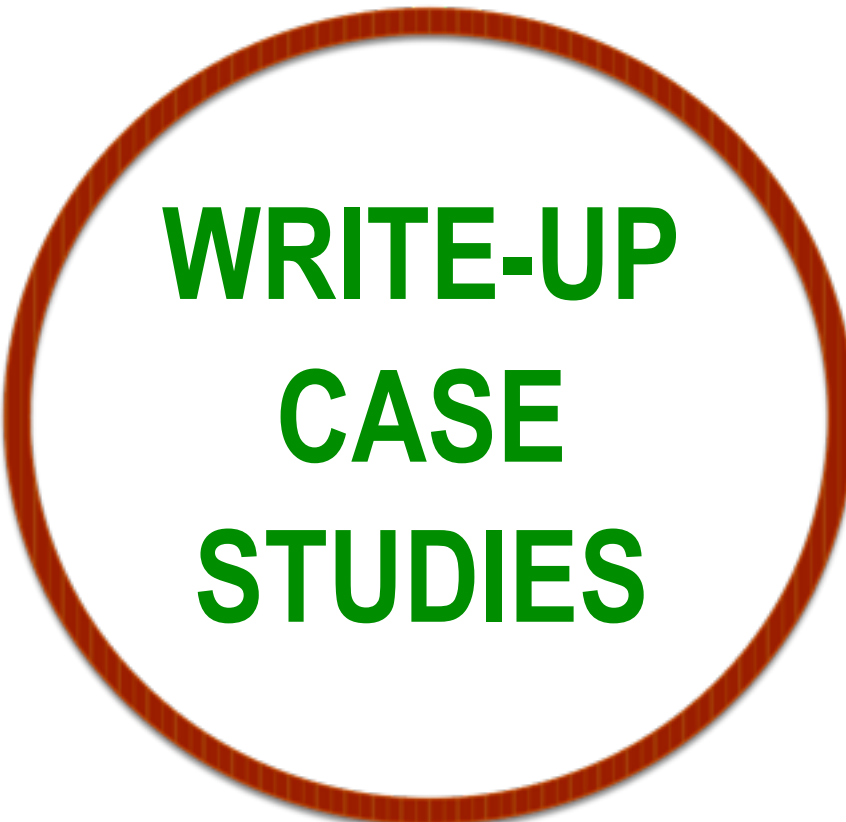


# Sticky Ideas are:

**S**stories



:



**WRITE-UP  
CASE  
STUDIES**



**FIND &  
DOCUMENT  
STORIES**



**SCALE-UP**