

A Successful Earthquake Public Education in Schools

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5:26:26 AM, 26 December 2003

Ms=6.5

31,828 Dead

25,000+ Injured

75,000 Homeless

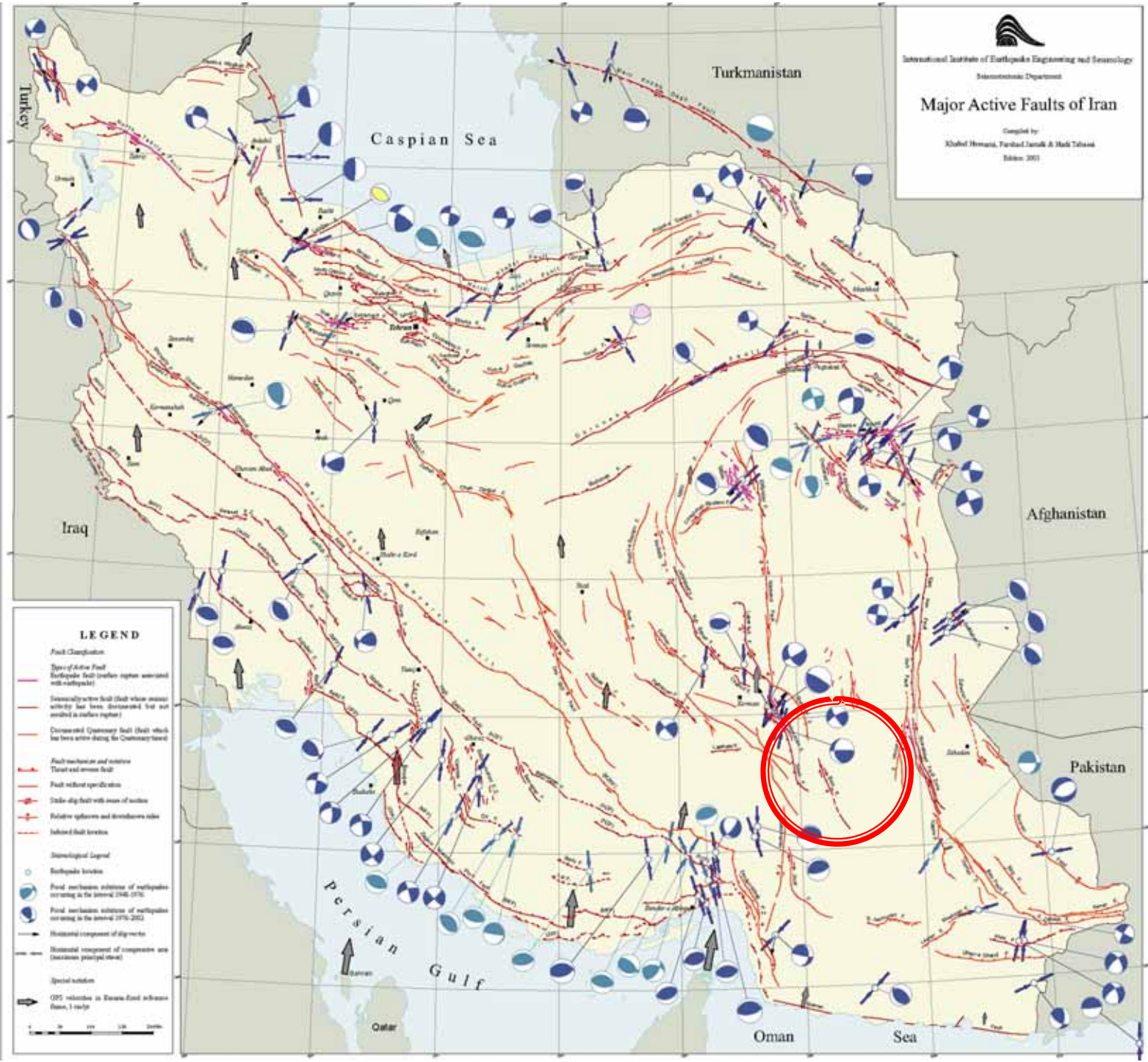
70% of buildings were totally destroyed

Arge Bam Before E.Q



Arge Bam After E.Q





LEGEND

Fault Classification

- Span of Active Fault (Strike-slip fault (surface rupture associated with earthquakes))
- Seasonally active fault (Fault whose seismic activity has been discontinued, but not recorded as surface rupture)
- Discontinued Quaternary fault (Fault which has been active during the Quaternary period)

Fault mechanism and relative

- Thrust and reverse fault
- Fault without specification
- Strike-slip fault with sense of motion
- Relative upthrown and downthrown sides
- Inferred fault location

Seismological Legend

- Earthquake location
- Point earthquake solutions of earthquakes occurring in the period 1946-1976
- Point earthquake solutions of earthquakes occurring in the period 1976-2002
- Horizontal component of slip vectors
- Horizontal component of compression and tension principal stress
- Special stations
- GPS velocities in Tehran-Erdam reference frame, 1-100yr

Bam Reconstruction

Policy:

- ✓ Rebuild Bam with full preservation of its culture and history;
- ✓ Provide financial resources and overall management;
- ✓ Revise the city planning based on seismic hazard and soil conditions;
- ✓ Provide typical architectural and structural design compatible with the culture and socio-economic condition of Bam;
- ✓ Provide good quality construction material at low price;

Bam Reconstruction

Policy:

- ✓ Maximize people and private sectors participation;
- ✓ Maximize utilization of local engineering services;
- ✓ Establish a “Construction Exhibition and Market” with the purpose of offering consulting and technical information and services, showing sample units
- ✓ Provide quality controlled construction materials;
- ✓ Technical supervision of the whole reconstruction process.

Bam: History, Culture, and Significance

- ✓ Bam is an ancient city (Citadel was more than 2,000 years old).
- ✓ It is located in the middle of desert, but had a sophisticated water irrigation system and a long history of successful agriculture.
- ✓ Exports 100,000 metric tons of finest quality dates per year.
- ✓ Exports substantial amount of best citrus fruits in the country.
- ✓ Over the past decade a new major industrial complex has been built to the east of the City. This complex houses various factories including a major automobile assembly factory.
- ✓ Dominant culture is a tribal one consisting of large "family" units.
- ✓ There is a very strong attachment to land.
- ✓ Prior to earthquake, Bam was one of the richest cities in Iran.

Bam Reconstruction

Housing Reconstruction

Distribution of Residential Units in Bam and their Households vs. the Size

Size of Residence	% of Residential units	% of Households Units
One Bedroom	5%	12%
Two Bedrooms	20%	31%
Three Bedrooms	26%	33%
Four or more Bedrooms	49%	24%

Bam Reconstruction

Residential and Commercial Buildings Cleared of Debris

Total	32,938
Bam and Baravat	26,721
Rural area	6,215
Daily use of Machineries	Truck: 351; Bulldozer: 98



Bam Reconstruction Rural Area

Construction Has Been Started: 24,307

Completed Unit: 20,010



35 Village (50%) were reconstructed by HF of Kerman

31 Village (50%) were reconstructed by HF of 7 Provinces

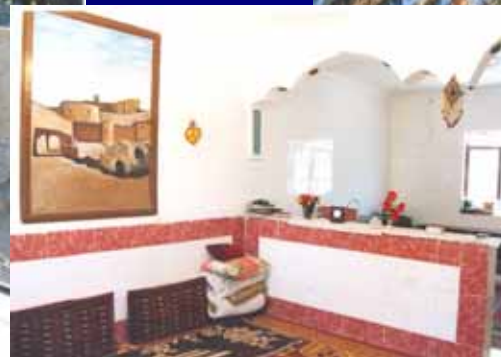




Bam Reconstruction Individual Housing



Bam Reconstruction Individual Housing



Bam Reconstruction Individual Housing



Bam Reconstruction Individual Housing



Bam Reconstruction Apartment Buildings



Bam Reconstruction Rental Apartment Buildings



Bam Reconstruction Hospitals and Health Centers



Renovated Bam Department of Health



Bam Mental Health Center



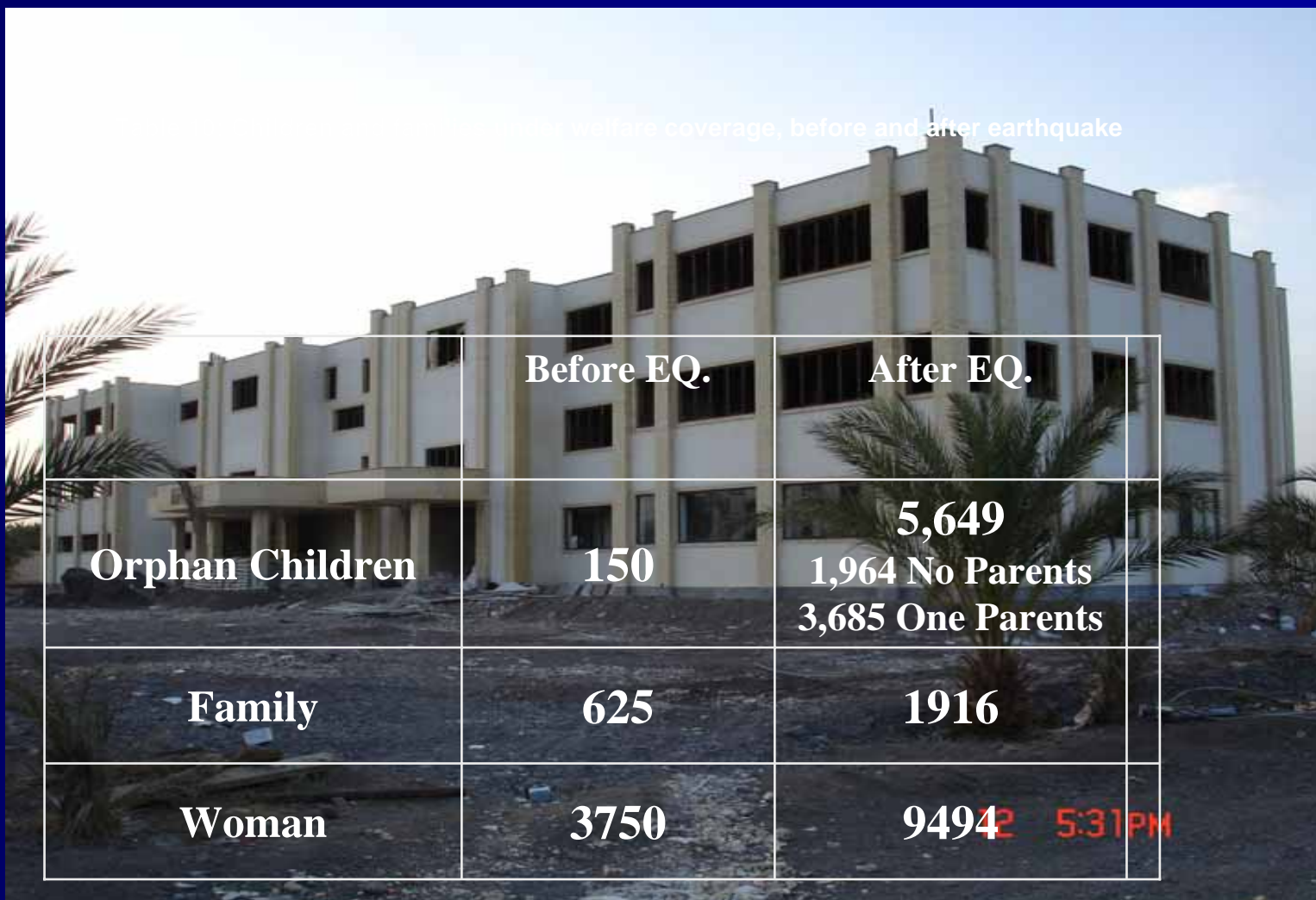


Bam Reconstruction Clinics, Emergencies and Health Centers



Bam Reconstruction Disabled and Social Welfare Centers

Number of people under welfare coverage, before and after earthquake



	Before EQ.	After EQ.
Orphan Children	150	5,649 1,964 No Parents 3,685 One Parents
Family	625	1916
Woman	3750	9494

2 5:31 PM

Bam Reconstruction Disabled and Social Welfare Centers



Bam Reconstruction Doctor's Offices and Pharmacies



Bam Reconstruction

Bam Central Library





Bam Reconstruction Sport Stadium





Bam Reconstruction Government Office Complex



Bam Reconstruction Police Offices



Bam Reconstruction

Bam Court House

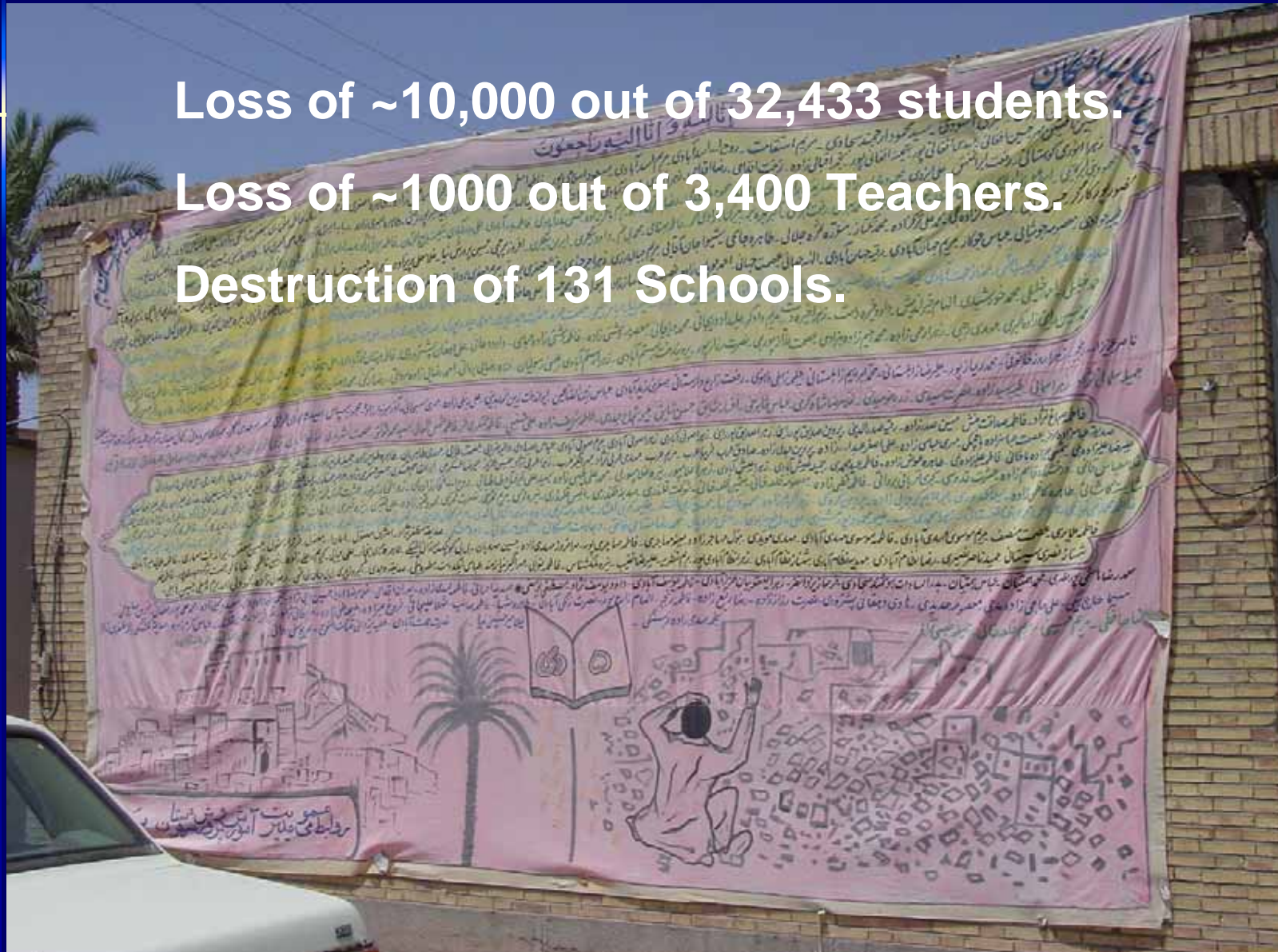


Bam Reconstruction Schools

Loss of ~10,000 out of 32,433 students.

Loss of ~1000 out of 3,400 Teachers.

Destruction of 131 Schools.



Bam Reconstruction Schools

City	New School		Repaired	
	School	Class	School	Class
Bam	71	556	33	268
Baravat	16	112	3	18
Bam area	25	79	1	3
Dahabkery	15	52	-	-
Poshtrood	1	10	-	-
Kerk	3	11	-	-
Total Number	131	820	37	289
Completed	48		37	



Bam Reconstruction Schools





Bam Reconstruction Schools





Bam Reconstruction Schools

Technical High School
Capacity: 240 Students





Bam Reconstruction Schools





Bam Reconstruction Schools



Bam Reconstruction Schools



Why Schools

Temporary Sheltering

Rescue and Relief operation

Local Disaster Management

Importance of Schools

- **Number of Students: 15,264,349**
- **Number of Teachers: 655,690**
- **Number of School Staffs: > 1,000,000**
- **Number of Schools: 140,815**

Why Students

They are about 1/4 of Iran's Population

They are one of the most vulnerable group of society

They have high capacity for learning

They can easily transfer what they have learnt

They are futures

For Building an **Earthquake**

Safety Culture in Iran,

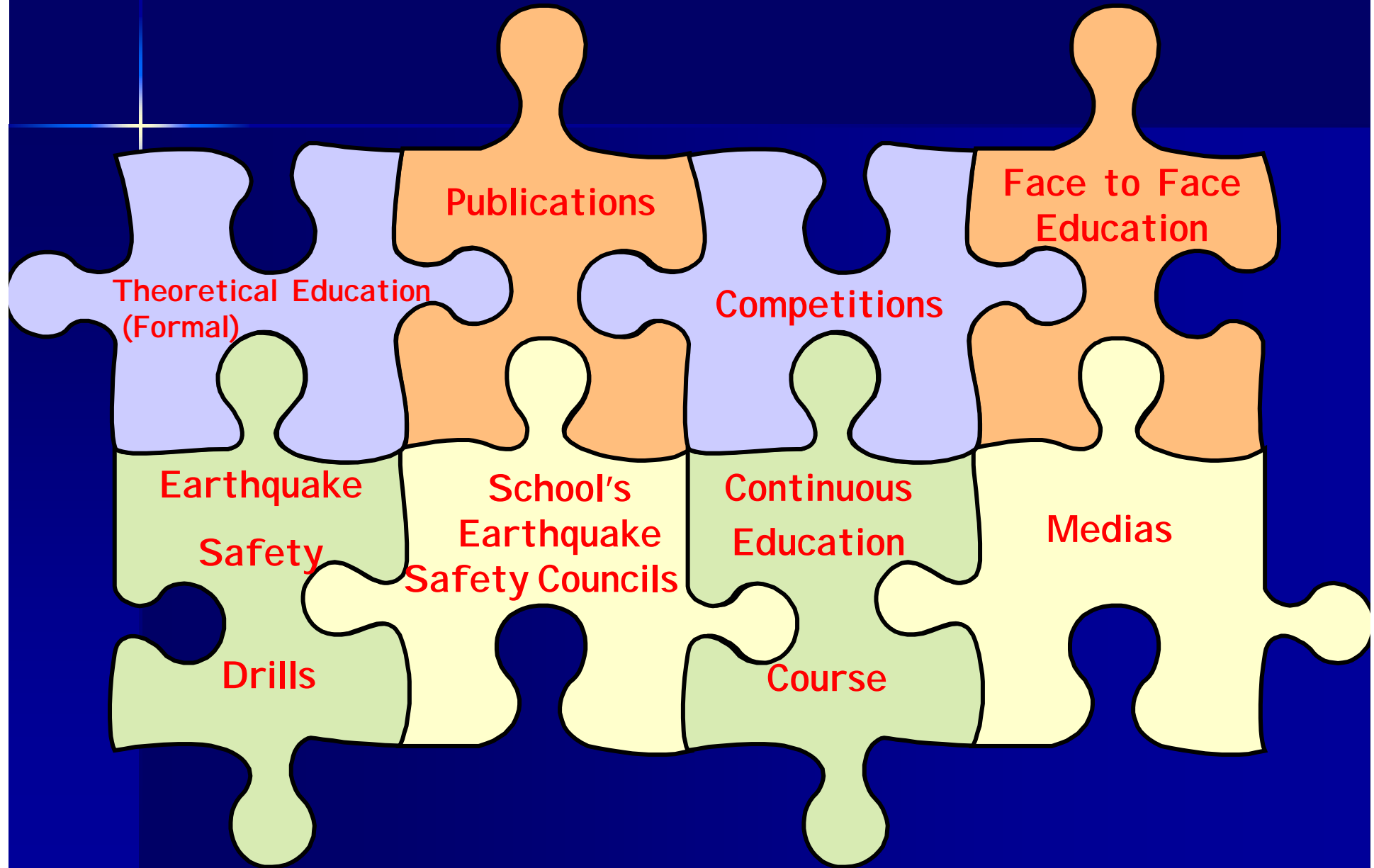
we need to have a

Comprehensive Public

Education Program by using all

types of Educational Methods

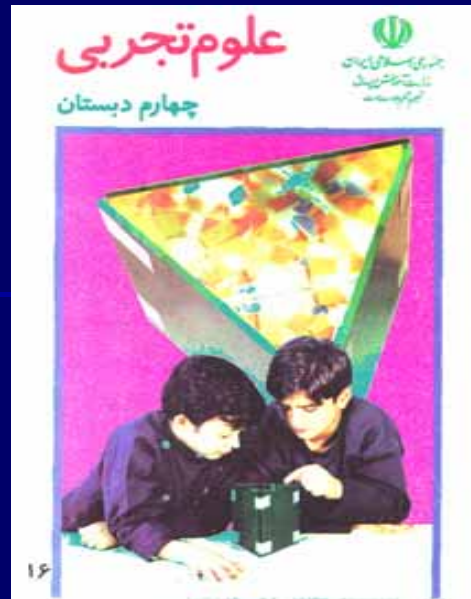
Successful Public Education Program in Schools



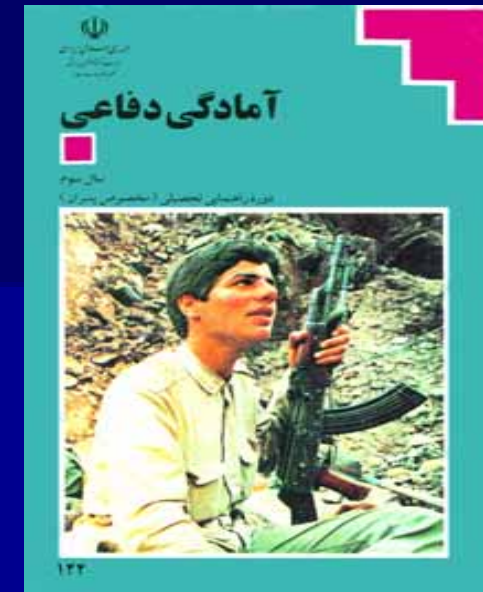


**Theoretical Education
(Formal)**

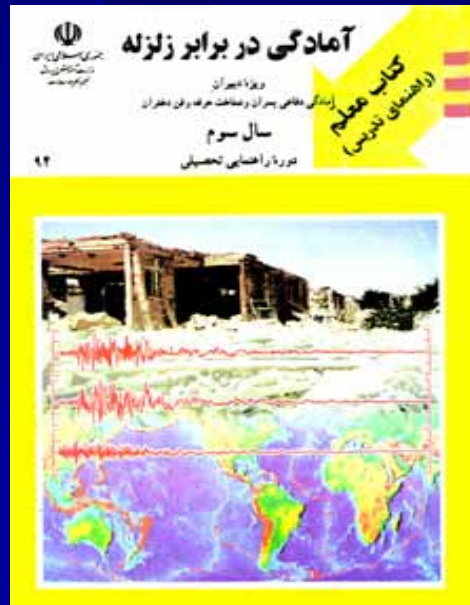
Science Book



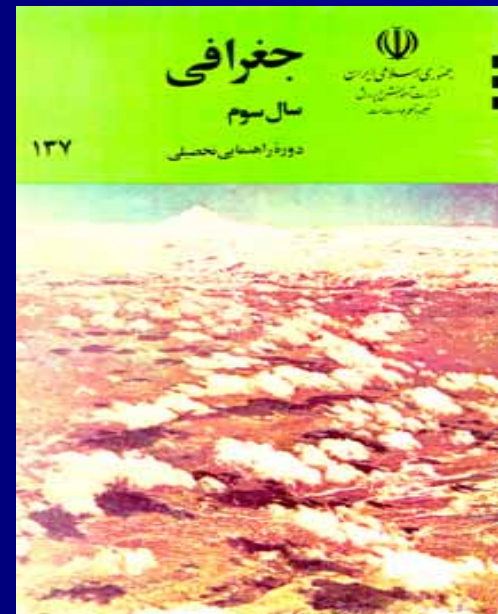
Defense Preparedness



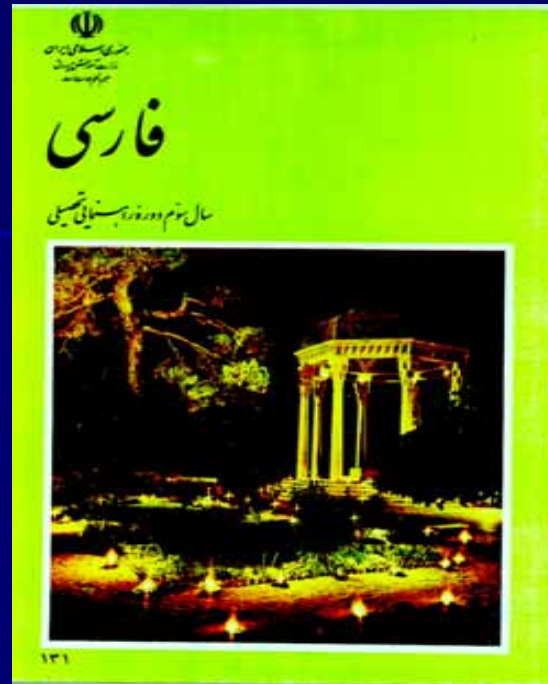
Earthquake Preparedness Guideline for Teachers



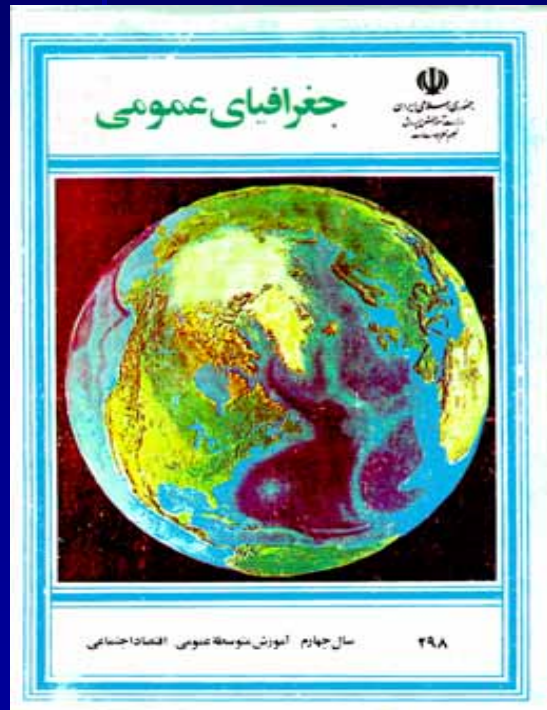
Geography



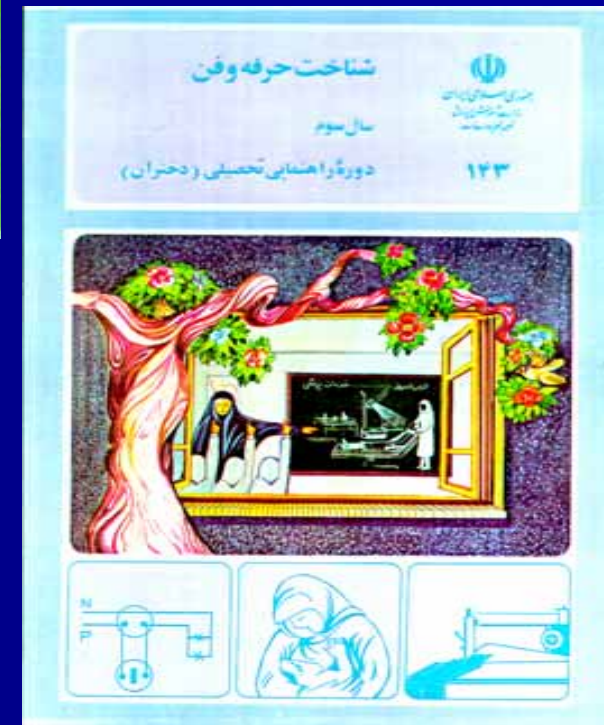
Persian Literature Book

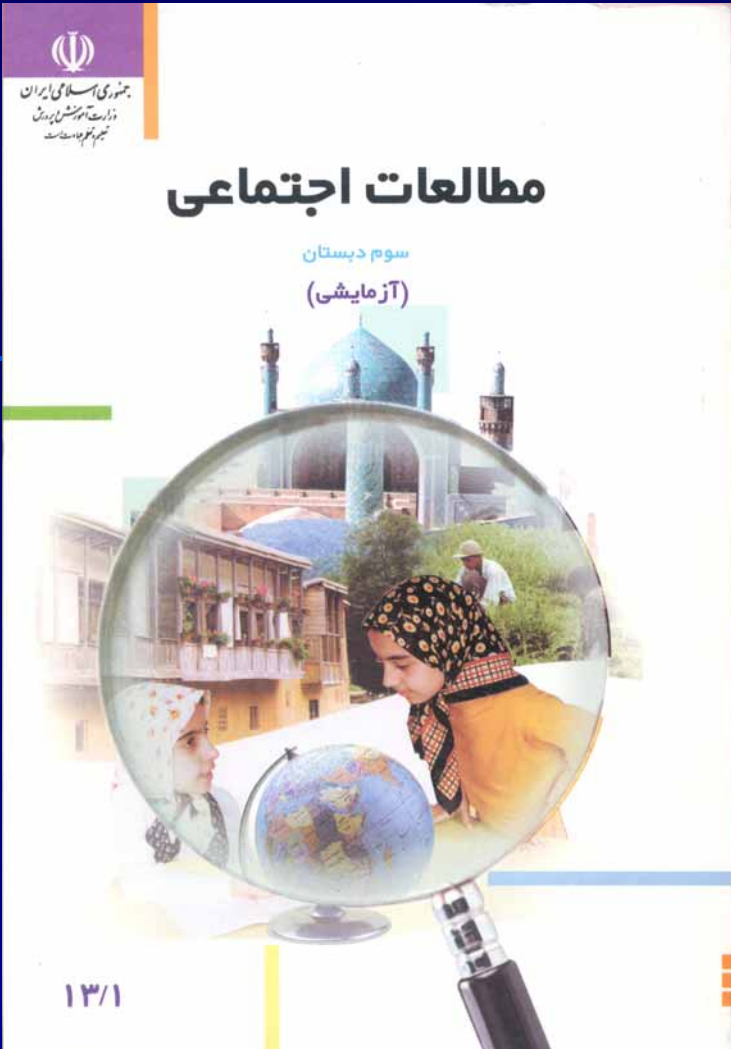


Geography Book



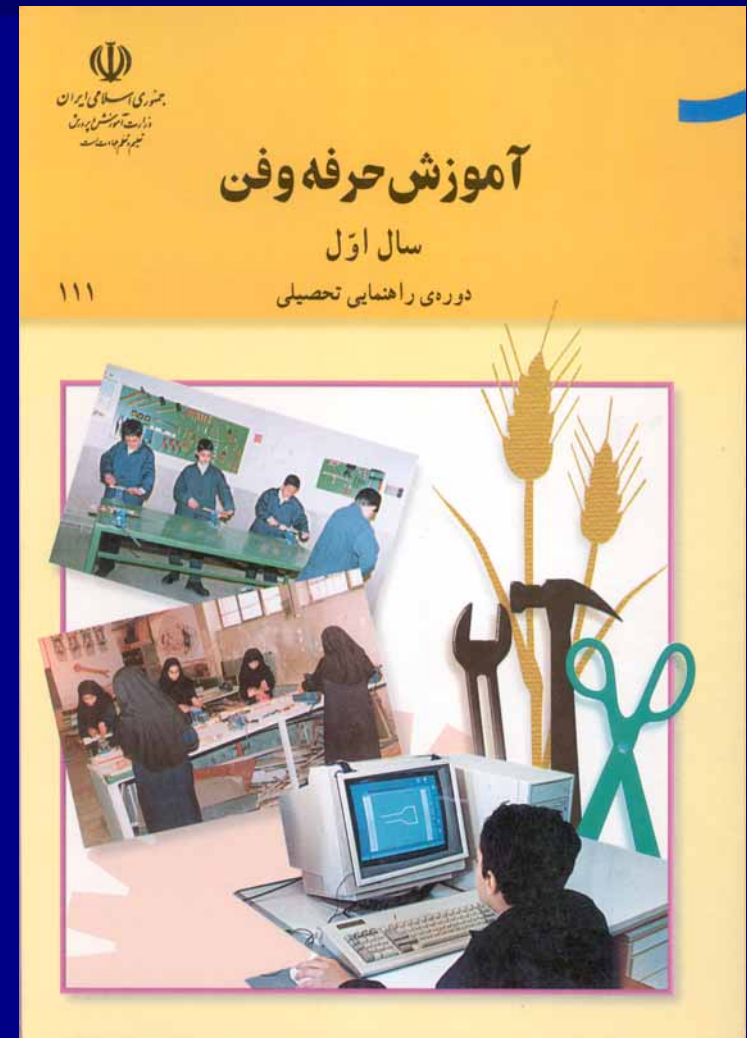
Knowledge of Careers and Arts

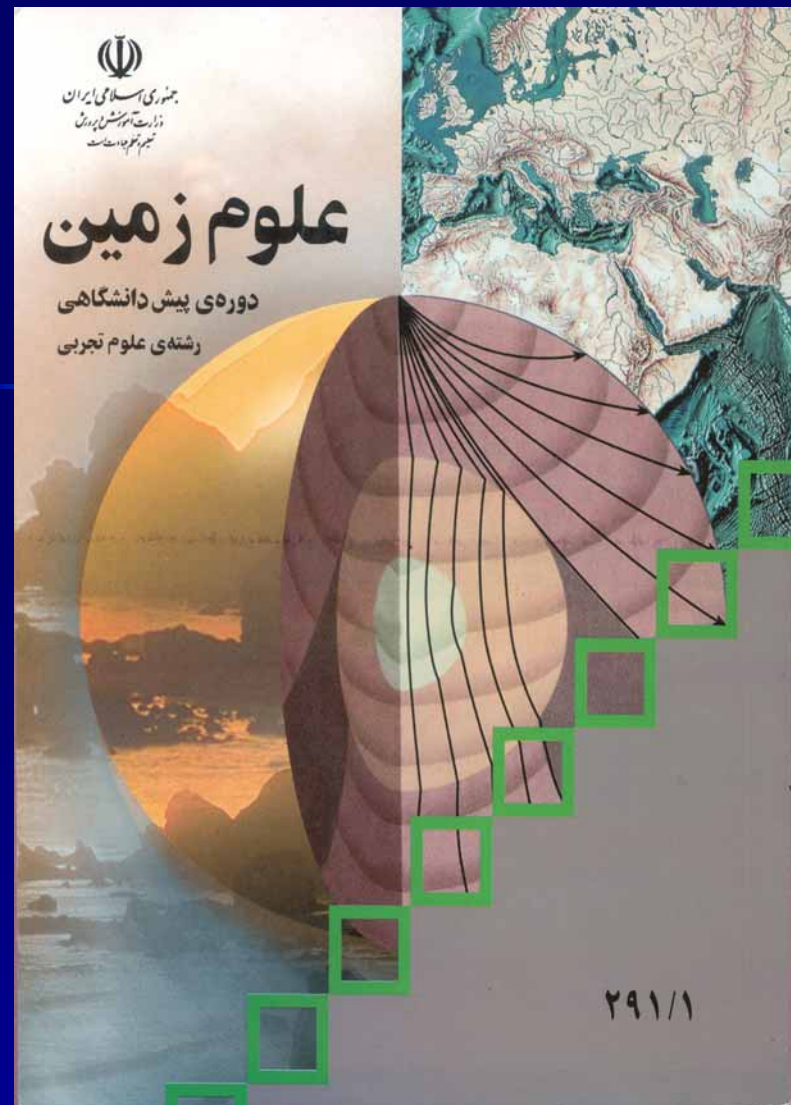




Social Study Book

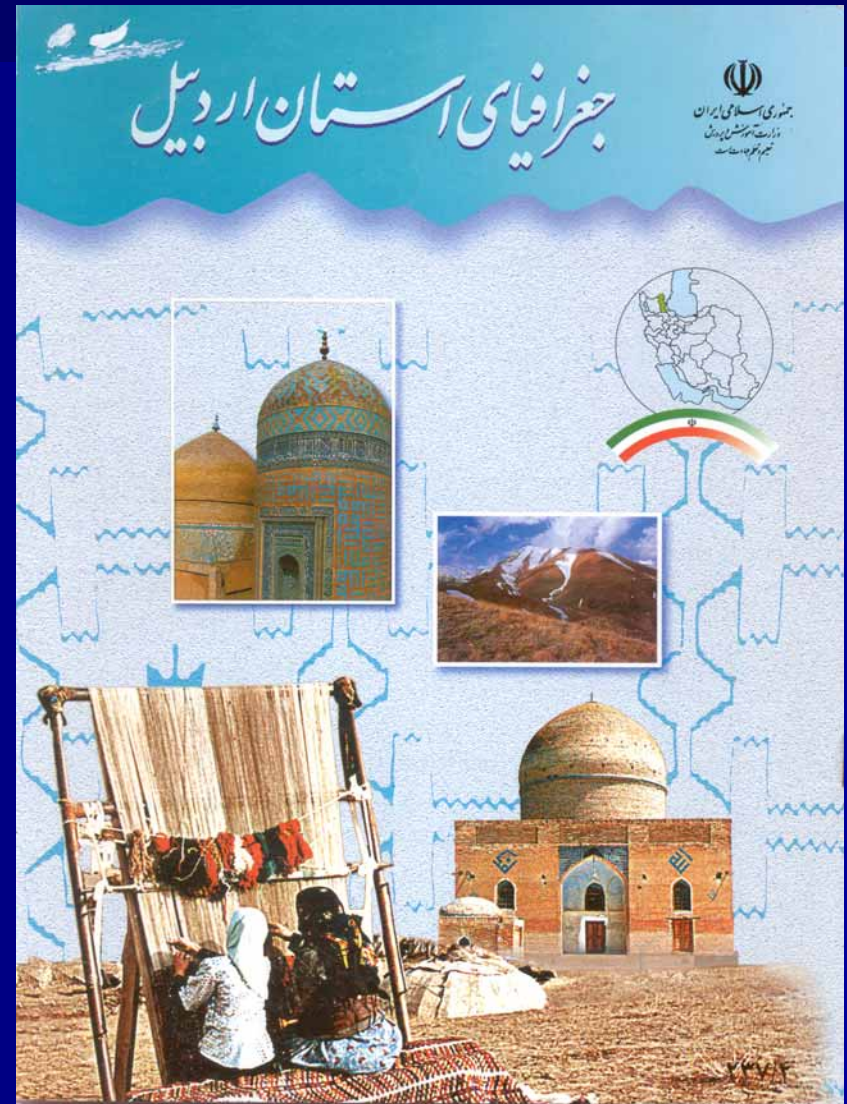
Knowledge of Careers and Arts

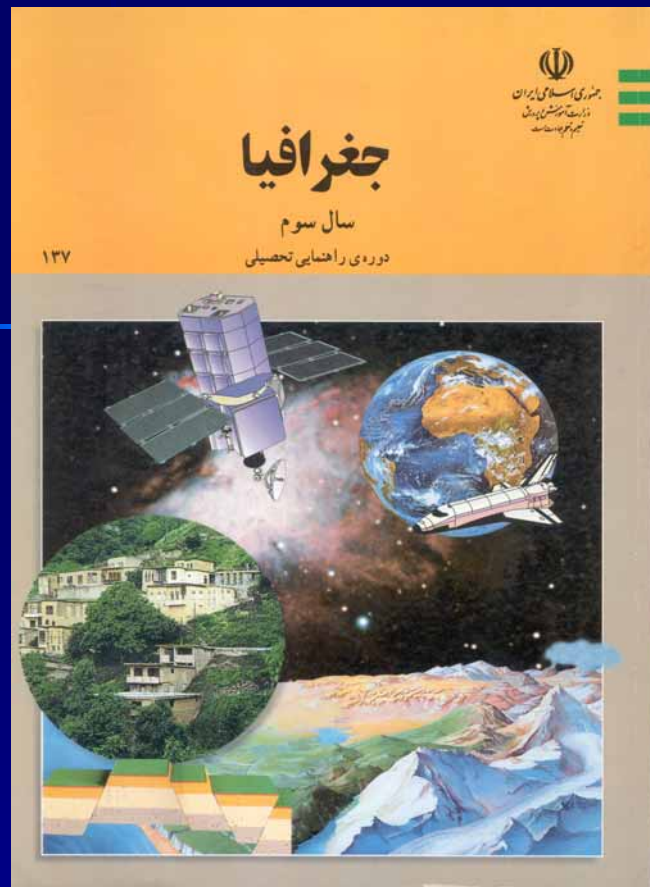




Geology Book

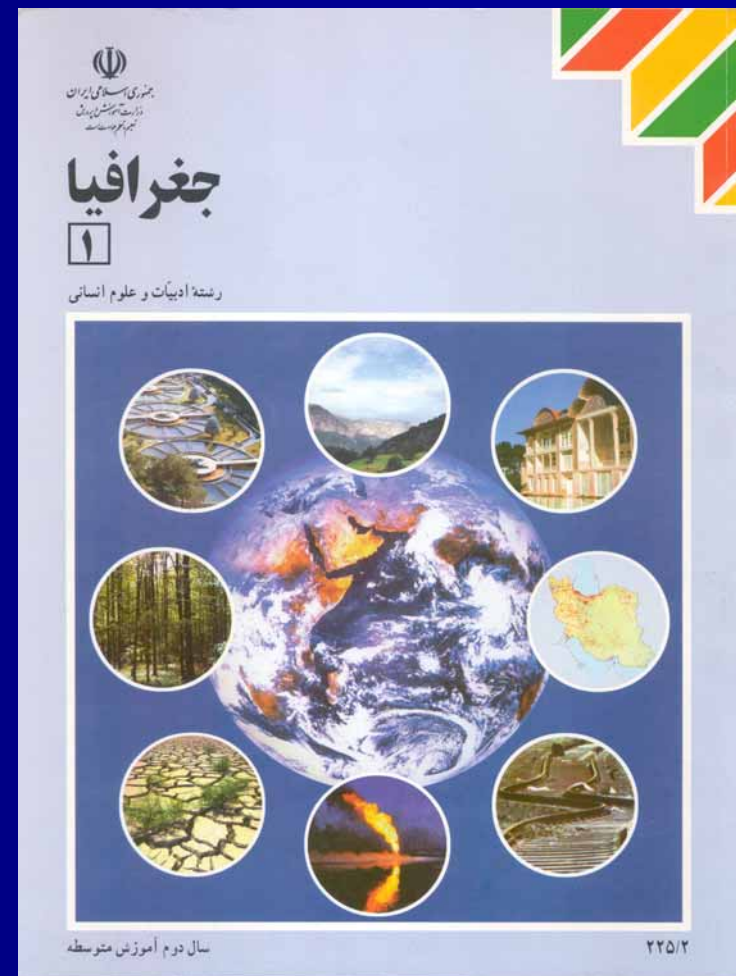
Geography of Ardebil Province Book



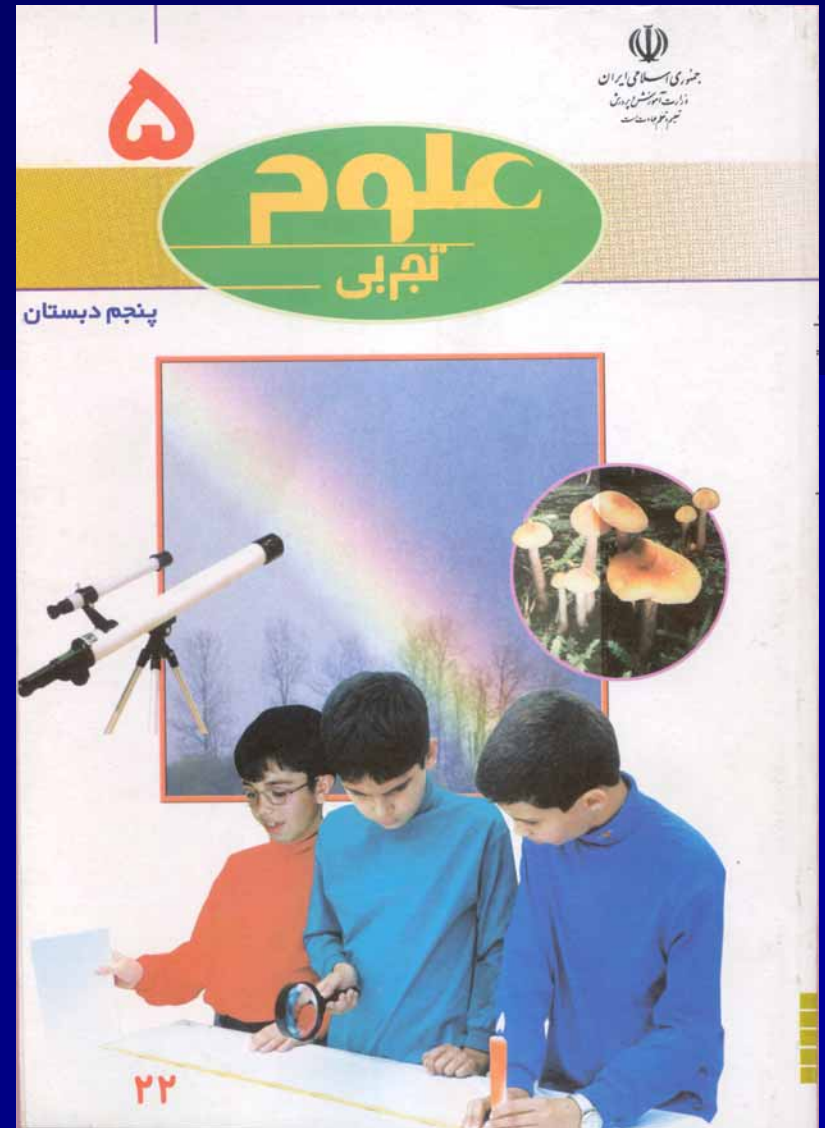
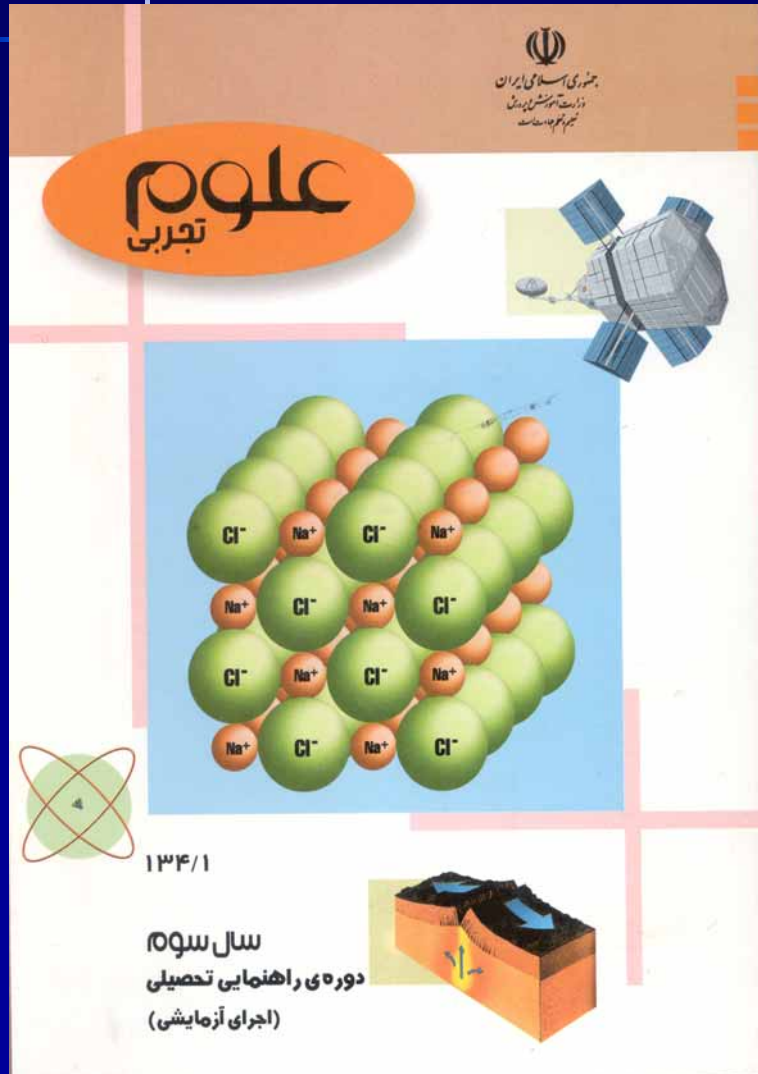


Geography Book

Geography Book

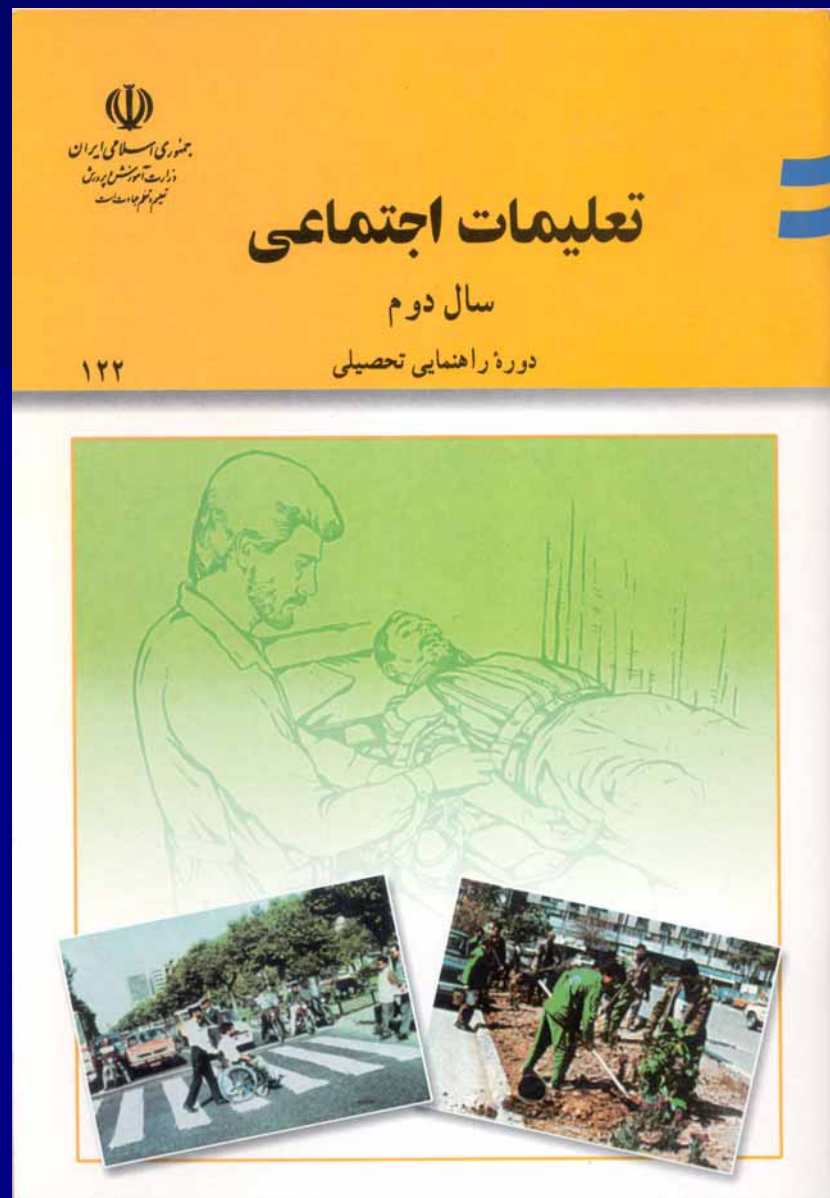
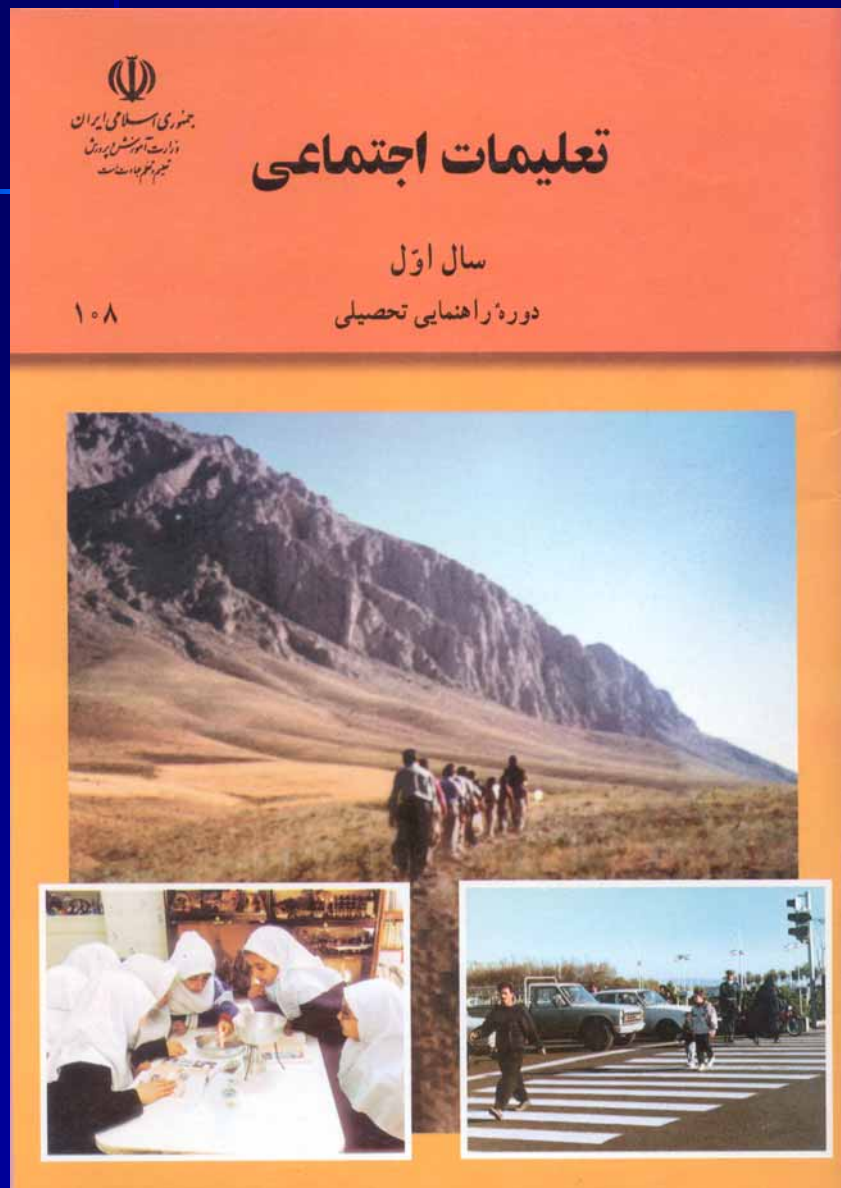


Science Book



Science Book

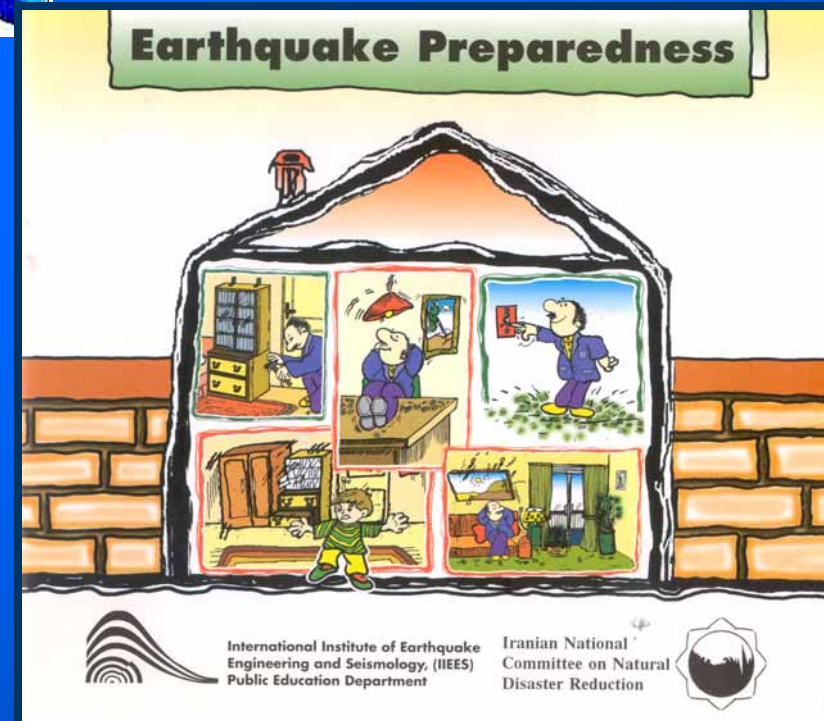
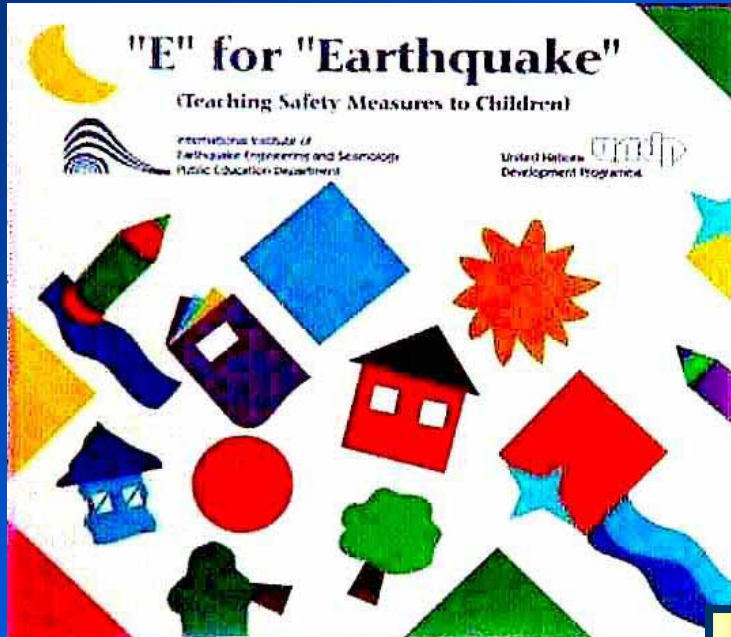
Social Science



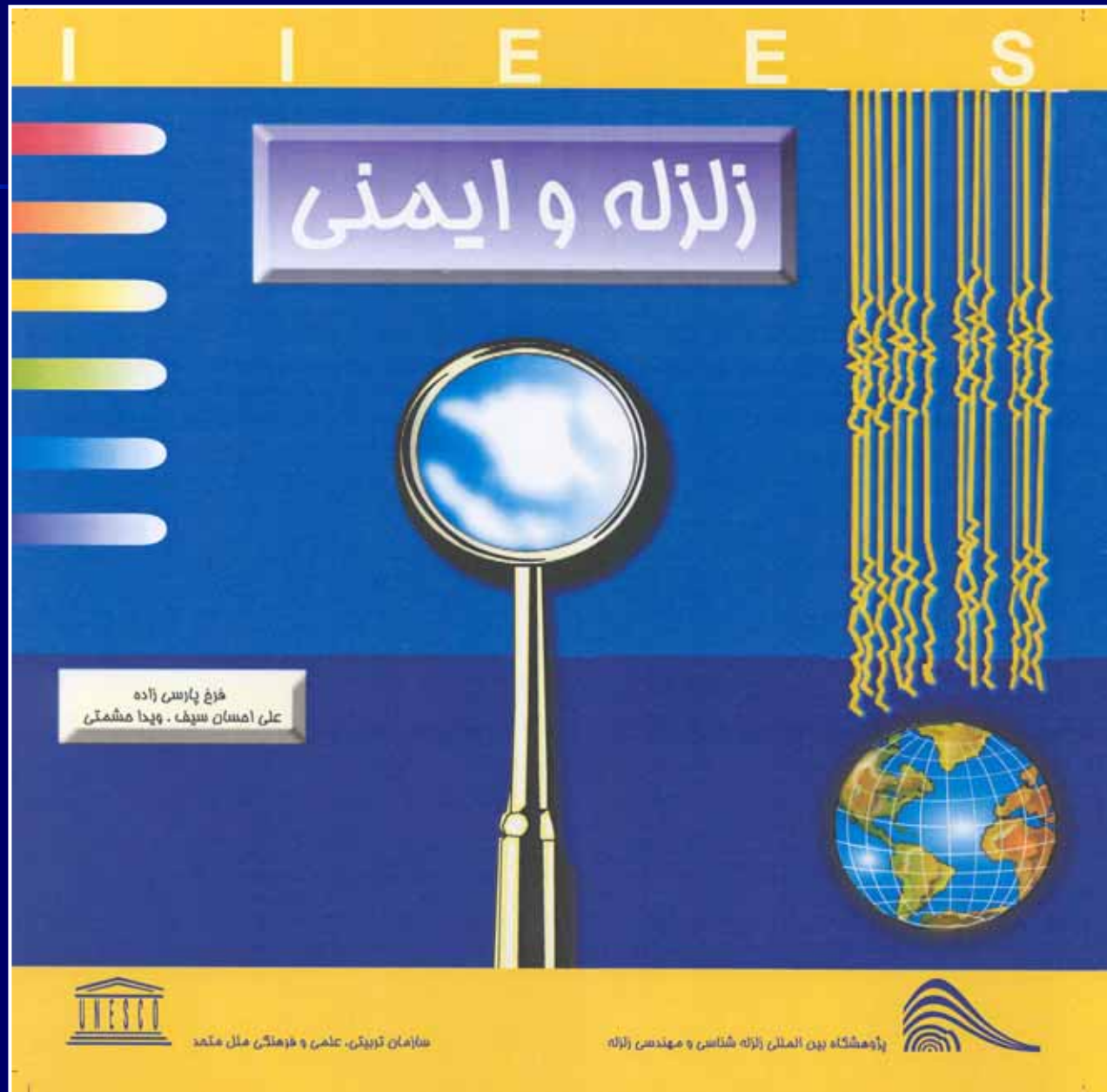
Social Science



Publications

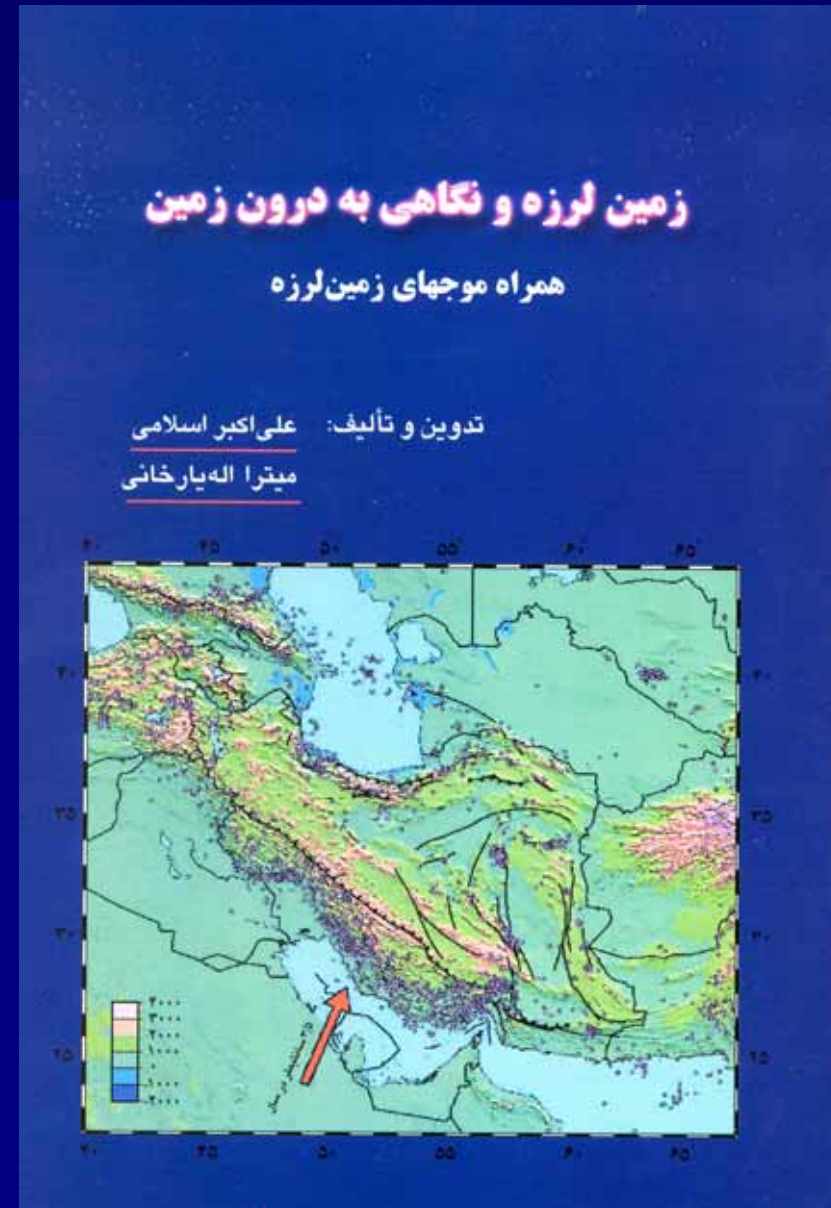
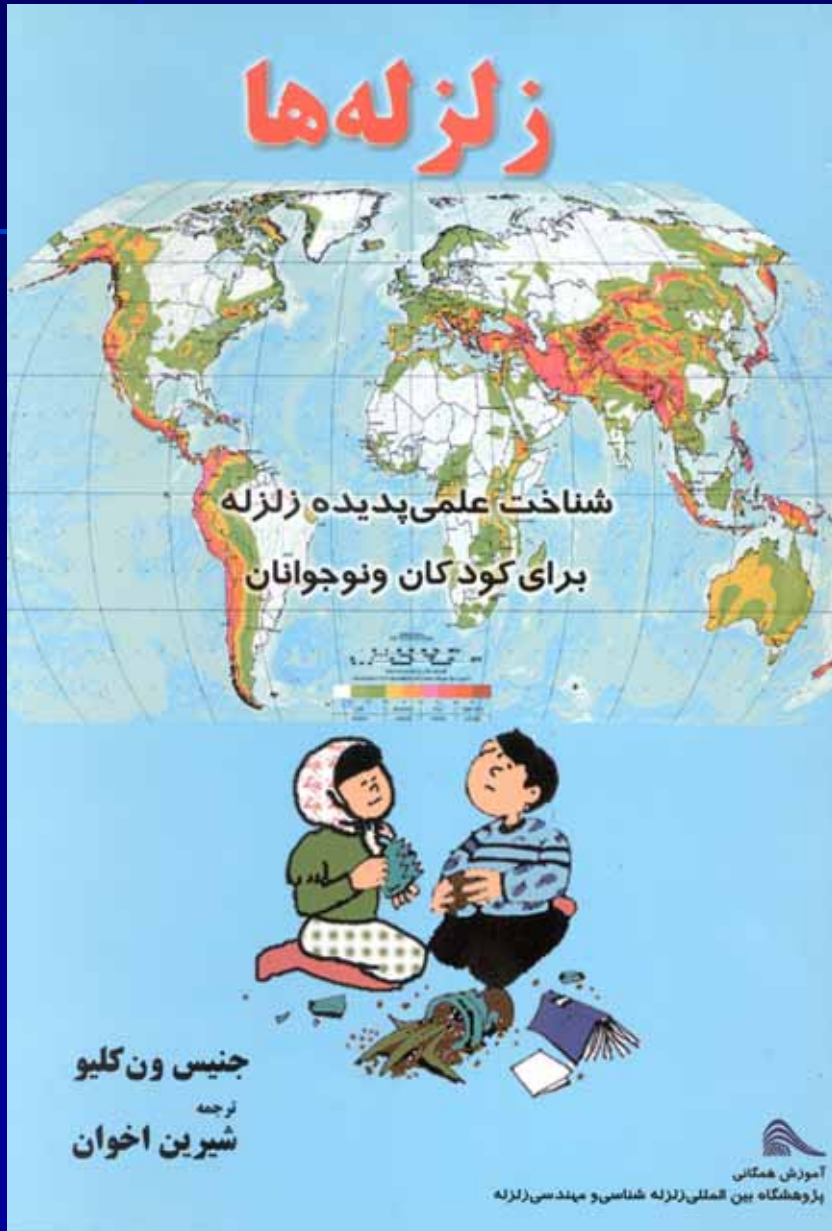


Earthquake and Safety



SCIENTIFIC KNOWLEDGE OF EARTHQUAKES

Earthquake and inside the Earth



What should we know about Earthquakes?

آنچه که باید از زلزله بدانیم



فرخ یارسی زاده

پدیده فاطمی

پژوهشگاه بین المللی زلزله شناسی و مهندسی زلزله

با مشارکت : اقسام انگلستان



Poster "Earthquake Safety Measures in Schools"

دانش آموزان عزیز! کشور ما ایران، در منطقه لرزه خیزی از جهان قرار گرفته است. در حال حاضر بیش از ۱۰۰ هزار نفر در مناطق لرزه خیز و زمین سازی محیط داخلی ساختمان خطرناک زندگی می کنند. به منظور ایمن سازی فضای داخلی مدرسه و اقدامات لازم برای زمان پس از وقوع زلزله شما دانش آموزان عزیز نیز می توانید در گروه های مشخص مشارکت داشته باشید. تشکیل شورای ایمنی زلزله متشکل از معلمان و مسئولان و نمایندگان دانش آموزان قبل از وقوع زلزله بسیار مفید می باشد. با تشکیل گروه ایمنی زلزله برای اقدامات قبل از وقوع زلزله و گروه های پشتیبانی، تجسسی و کمک های اولیه برای اقدامات پس از وقوع زلزله محیط مدرسه خود را ایمن کنید.

توصیه های ایمنی در برابر زلزله در مدارس

- پس از زلزله به خاطر احتمال وقوع پس لرزه ها دقایقی در جای امن خود باقی بمانید.
- وسایلی را که امکان سقوط دارند در جای خود محکم کنید.
- پس از زلزله به دلیل احتمال ترکشگی لوله های گاز و آب و پاره شدن سیم های برق از استفاده کردن از آنها و روشن کردن کبریت و فندک اجتناب کنید.
- پس از وقوع زلزله به منظور کمک فوری به افراد آسیب دیده، در امر حضور و غیاب همکاران و معلمان خود و در صورت امکان فعالیت های امداد و هیات شرکت کنید.
- وسایل ضروری زمان سانحه را با کمک یکدیگر تهیه و در جایی امن نزدیک در خروجی نگهداری کنید.

پس از زلزله پس از آرامی از ساختمان خارج شوید و از نزدیک شدن به مناطق آسیب دیده و فراب شده خودداری کنید.

از والدین خود بخواهید که با شرکت در جلسات ایمنی اولیا، و مربیان و بهره گیری از توان و تخصص خود، در ایمن سازی مدرسه مشارکت نمایند.

شیشه ها را با چسب سی رنگ به صورت ضربدر ایمن کنید.

پس از وقوع زلزله به منظور کمک فوری به افراد آسیب دیده، در امر حضور و غیاب همکاران و معلمان خود و در صورت امکان فعالیت های امداد و هیات شرکت کنید.

وسایل ضروری زمان سانحه را با کمک یکدیگر تهیه و در جایی امن نزدیک در خروجی نگهداری کنید.

Educational Pamphlet



A light purple puzzle piece is centered on a dark blue background. The puzzle piece has four irregularly shaped protrusions and indentations. In the center of the piece, the word "Competitions" is written in a dark green, bold, sans-serif font. A thin white grid is visible in the background, consisting of a vertical line on the left and a horizontal line across the middle.

Competitions

Essay Writing Competition for ages 12-18

1997 "Earthquake Reduction"

2000 "Earthquake and Safety"

2003 "Earthquake and it's Effects"

**Perspectives of
Young Adults on
“Earthquake and Safety”**

Farrokh Parsizadeh
Vida Heshmati
Ali Ehsan Seif

Second Asian Drawing Competition

روز جهانی کاهش اثرات بلایای طبیعی

۲۰ مهرماه - ۱۳۹۵ ق.م.ش

چگونه از خطرهای زلزله پیشگیری کنیم؟



دومین مسابقه آسیایی نقاشی کودکان و نوجوانان



وزارت کشور
کمیته ملی کاهش اثرات بلایای طبیعی

فعالیت‌های جنبی نمایشگاه

- ◆ غرفه آموزش نکات علمی در مورد پدیده زلزله
- ◆ غرفه آموزش آمادگی در برابر زلزله
- ◆ غرفه ویژه برگزاری کلاس‌های عملیات امداد، نجات و کمک‌های اولیه
- ◆ غرفه بازی و یادگیری
- ◆ غرفه انتشارات



کانون پرورش فکری کودکان و نوجوانان

وزارت فرهنگ و آموزش عالی
موسسه بین‌المللی زلزله‌شناسی و مهندسی زلزله

مکان: تهران - خیابان محراب - مرکز آمارشناسی هنری کانون پرورش فکری کودکان و نوجوانان
زمان: ۲۰ شهریور ۱۳۹۵ - ۹ صبح تا ۵ بعد از ظهر

مشتوباره علاقه‌مندی فکری - هنری

زلزله و ایمنی

۱۷ شهریور ۱۳۹۵




با همکاری و مشارکت بنیاد ملی کاهش اثرات بلایای طبیعی
و مرکز آمارشناسی هنری کانون پرورش فکری کودکان و نوجوانان

مکان: تهران - خیابان محراب - مرکز آمارشناسی هنری کانون پرورش فکری کودکان و نوجوانان
زمان: ۲۰ شهریور ۱۳۹۵ - ۹ صبح تا ۵ بعد از ظهر


Drawing Competition

Third Asian Drawing Competition


Organized by:




International Institute of Earthquake Engineering and Seismology
with the Cooperation of:
Ministry of Education



Iranian National Commission for UNESCO



Institute for Intellectual Development of Children and Young Adults

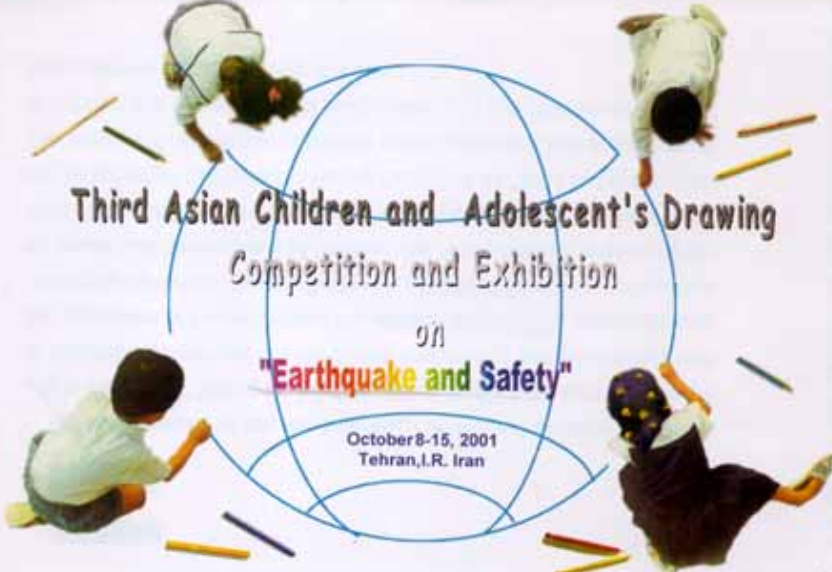


Iranian National Committee for Natural Disaster Reduction

Entries should be sent to:
IEES, Public Education Dept.,
P.O. Box 19395/3913, Tehran, I.R. Iran
Tel: 0098 21 2831115-19
Fax: 0098 21 2299479
Email: Parsi@dena.iees.ac.ir
www.IEES.AC.IR

Designer: A. deLacoste

Third Asian Children and Adolescent's Drawing Competition and Exhibition
on
"Earthquake and Safety"
October 8-15, 2001
Tehran, I.R. Iran



First Poster Design Competition

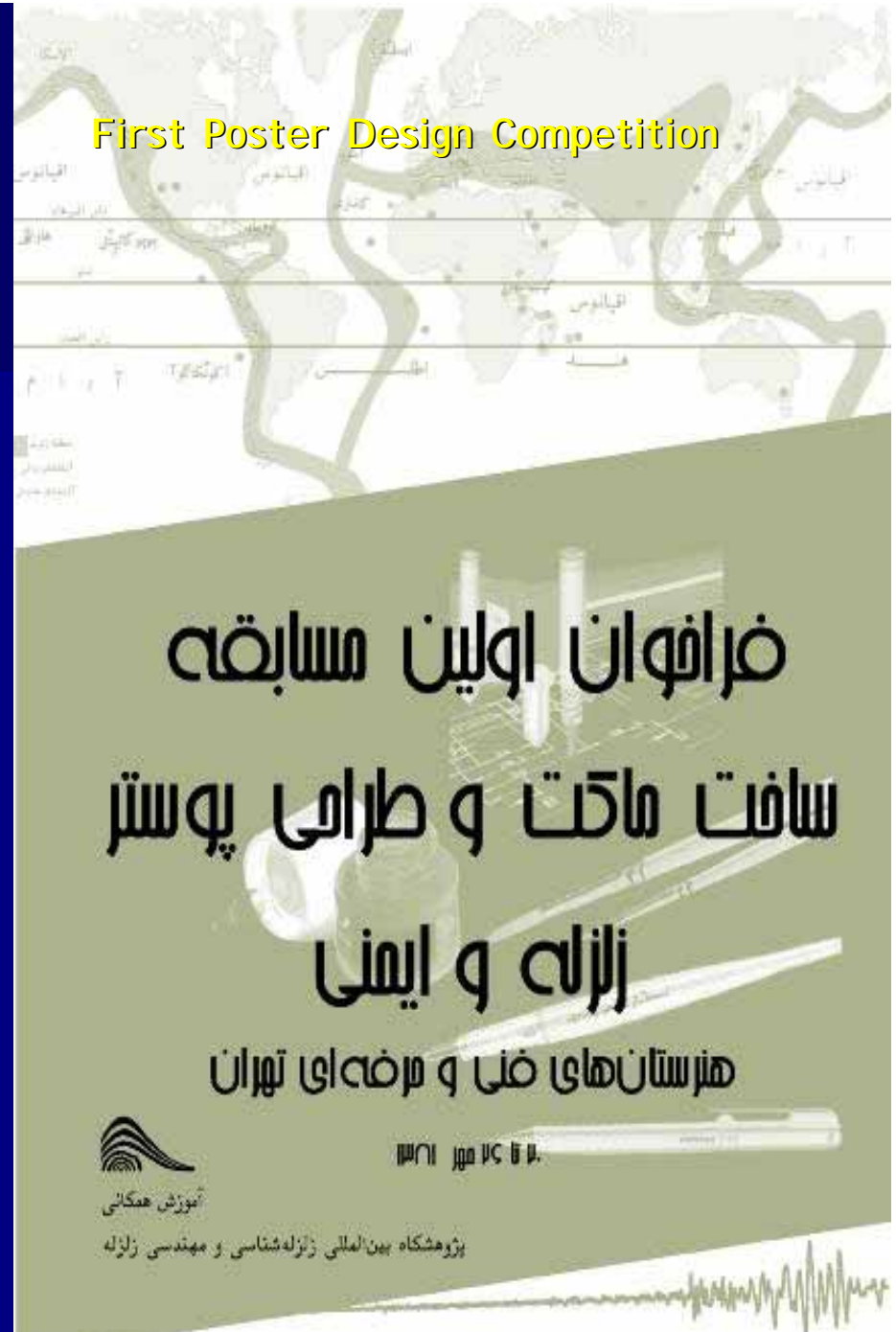
فرافهان اولین مسابقه
سافت ماکت و طراحی پوستر
زلزله و ایمنی
هنرستان‌های فنی و حرفه‌ای تهران



آموزش همگانی

پژوهشگاه بین‌المللی زلزله‌شناسی و مهندسی زلزله

۱۶ تا ۲۷ مهر ۱۳۸۰





Face to Face Education

Educational Workshops for Ages 6-18

- | | |
|------|--|
| 1991 | "Earthquake and Children" |
| 1994 | "Earthquake and Preparedness" |
| 1996 | "Earthquake and How to Reduce Hazard" |
| 2001 | "Earthquake and Safety" |
| 2003 | "Earthquake and Learning" |
| 2004 | "Bam Earthquake and Needs for Education" |
| 2005 | " Education for Safety " |





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**Earthquake
Safety Drills**

School Drills

	School	Year	No. of Students	No. of Schools	Girls	Boys	Total
Pilot Study	Primary	1996	1000	5	400	600	100
Pilot Study	High Schools	1997	-	3	-	-	-
Drill in Tehran	High Schools	1998	527,237	1,059	260,480	266,890	527,237
First National Drill	High Schools	1999	4,580,688	15,499	2,255,781	2,324,907	4,580,688
Second National Drill	Secondary and High Schools	2000	11,100,000	45,000	5,224,171	5,775,829	11,100,000
Third National Drill	Secondary and High Schools	2001	11,800,000	48,000	5,624,178	6,175,829	11,800,000
Fourth National Drill	Secondary and High Schools	2002	12,000,000	50,000	-	-	12,000,000
Fifth National Drill	All Schools	2003	16,591,225	120,000	7978101	8613124	16,591,225
Sixth National Drill	All Schools	2004	16,027,956	120,000	7730638	8297318	16,027,956
Seventh National Drill	All Schools	2005	15,264,349	140,815	7,391,739	7,872,610	15,264,349

Members of National Earthquake Drill Council

International Institute of Earthquake Engineering and Seismology,
Secretary of Council

Ministry
of
Education

Ministry of
Science
Research
and
Technology

Ministry of
Interior

Iranian
Red Crescent
Society

Iran Radio
T.V
Broadcasting

Programming Committee in Provinces

Member of Iranian Committee for Natural Disaster Reduction

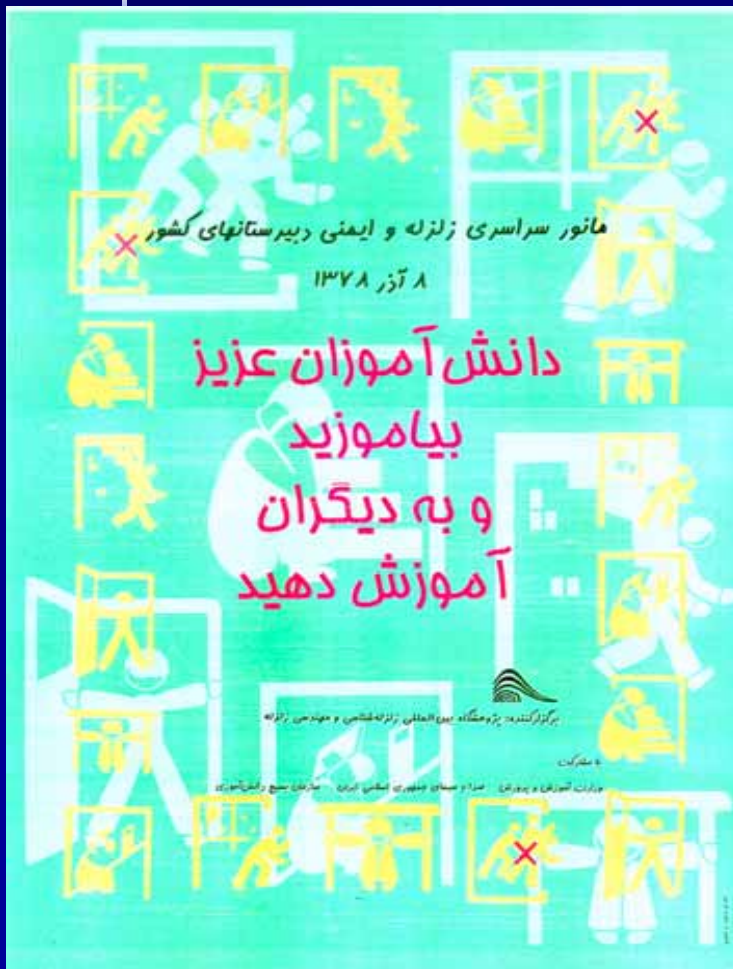
Member of
Local Radio
and T.V

Member of Red
Crescent
Society

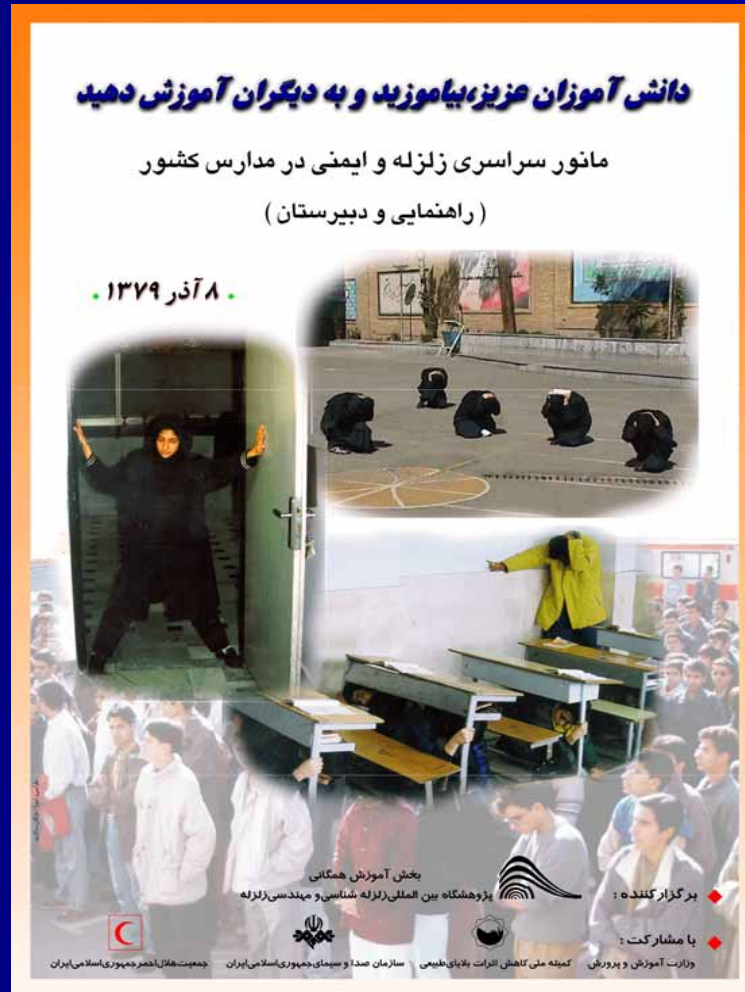
Members of
Local Edu
Organization

Posters

First National Earthquake Drills in High Schools



Second National Earthquake Drills in Secondary & High schools



Posters

Third National Earthquake Drills Secondary and High school

Fourth National Drills in Secondary and High Schools

سومین مانور سراسری زلزله و ایمنی
مدارس راهنمایی و دبیرستانهای کشور
۱۳۸۰ آذر




دانش آموزان عزیز پیامورید
و به دیگران آموزش دهید

برگزار کننده
آموزش همگانی
پژوهشگاه بین المللی زلزله شناسی و مهندسی زلزله

با مشارکت




دانش آموزان عزیز پیامورید و به دیگران آموزش دهید



چهارمین مانور سراسری
زلزله و ایمنی
مدارس راهنمایی و دبیرستانهای کشور

۱۸ آذر ۱۳۸۱



Guideline

Fourth National Drills in Secondary and High Schools

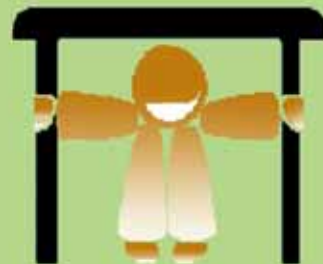
دستور العمل اجرایی چهارمین مانور سراسری

زلزله و ایمنی

مدارس راهنمایی و دبیرستان

۱۳۸۱ آذر ۱۸

ویژه مدیران



مدیریت آموزش همگانی

پژوهشگاه بین‌المللی زلزله‌شناسی و مهندسی زلزله

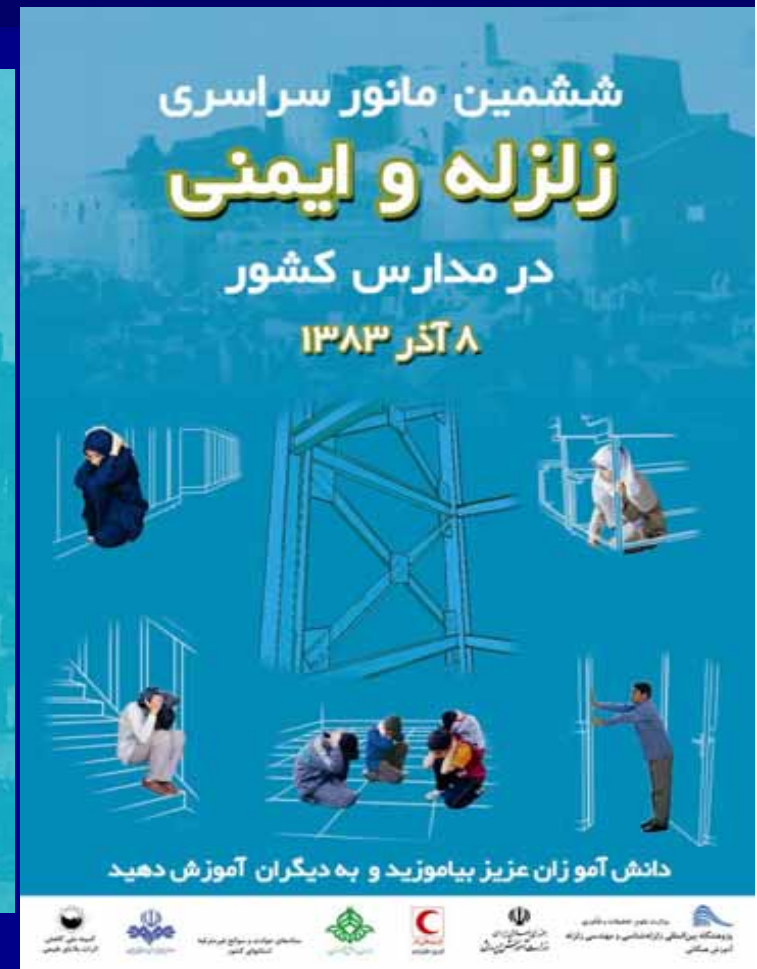
Website: www.iees.ac.ir

فاکس: ۲۲۹۹۲۷۸، تلفن: ۲۸۳۱۱۱۶-۱۹

نشانی: تهران، صندوق پستی ۱۹۳۹۵/۳۹۱۳

Poster and Guideline

Sixth National Drills Guide-book for Schools



First Pilot Drill in Public Offices, 2004

مانور آزمایشی زلزله و ایمنی در ادارات آموزش و پرورش
منطقه ۲ و ۱۸ شهر تهران



همزمان با ششمین مانور سراسری زلزله و ایمنی
در مدارس کشور
۱۳۸۳ آذر



وزارت علوم، تحقیقات و فناوری
وزارت آموزش عالی، عالی‌ترتیبی و مهندسی زلزله
آموزش همگانی

Poster and Guideline

Seventh National Drills from Primary to High Schools 2005

دستور العمل اجرایی هفتمین مانور سراسری

زلزله و ایمنی

ویژه مدیران مدارس کشور
۱۳۸۴ آذر





آمادگی
آرامش
پناهگیری
همکاری
خود امدادی

دانش آموزان عزیز بیاموزید و به دیگران آموزش دهید


هفتمین مانور سراسری زلزله و ایمنی

در مدارس سراسر کشور
۱۳۸۴ آذر



آمادگی
آرامش
پناهگیری
همکاری
خود امدادی

مانور



7th national earthquake and safety drill in schools

- Preparing and distributing 250,000 posters in all schools
- Preparing and distributing 150,000 drill instructions for school principals
- Producing animations with earthquake and safety subject for T.V channels
- Broadcasting the drill announcement from radio and television
- Foot noting the news of the drill in TV channels
- Special program in national radio from 8:30 to 10:45 with earthquake and safety issues to answer the questions of the audiences
- Carrying out the drill by deaf students in Tehran
- Carrying out the drill by blind students in Tehran
- Carrying out the drill by employees in 7 departments of various organizations of the ministry of education in Tehran
- Carrying out the drill by employees of various organizations of the ministry of education in Semnan, Tehran, East Aazarbayjan, Kerman, Qom, and Zanjan provinces
- Broadcasting earthquake and safety alarm from national and local radio for one minute



**School's Earthquake
Safety Councils**



شورای ایمنی در برابر زلزله

(ویژه مدارس راهنمایی و دبیرستانهای کشور)

فرخ پارس زاده

علی احسان سیف



آموزش همگانی
پژوهشگاه بین المللی زلزله شناسی و مهندسی زلزله



**Continuous Education
Course**

Offering Educational Courses for

Teachers and Employees of

Ministry of Education

A single yellow puzzle piece is centered on a dark blue background. The puzzle piece has a notch on the left side and a bump on the right side. The word "Medias" is written in a dark green, sans-serif font in the center of the piece. A thin white grid is visible in the background, consisting of a vertical line on the left and a horizontal line across the middle.

Medias



Table of timing schedules of T.V channels on 6th National Drill in Schools

Channel	Program timing	Percentage
1	151	70
2	18	8
3	5	2
Tehran	44	20
Total	218	100

Drill news in Radio and TV

	Correspondence news		Report		Online interview		Comment		total	
	Number	Timing (min:sec)	Number	Timing	Number	Timing	Number	Timing	Number	Timing
General office of news broadcasting (radio)	61	38:54	12	14:17	7	11:25	1	3:00	81	67:38
General office of news broadcasting (TV)	30	13:15	17	29:30	-	-	-	-	47	42:45
IRI News Network	43	78:00	-	-	-	-	-	-	43	78:00
Total	134	130:9	29	33:47	7	11:25	1	3:00	171	181:21

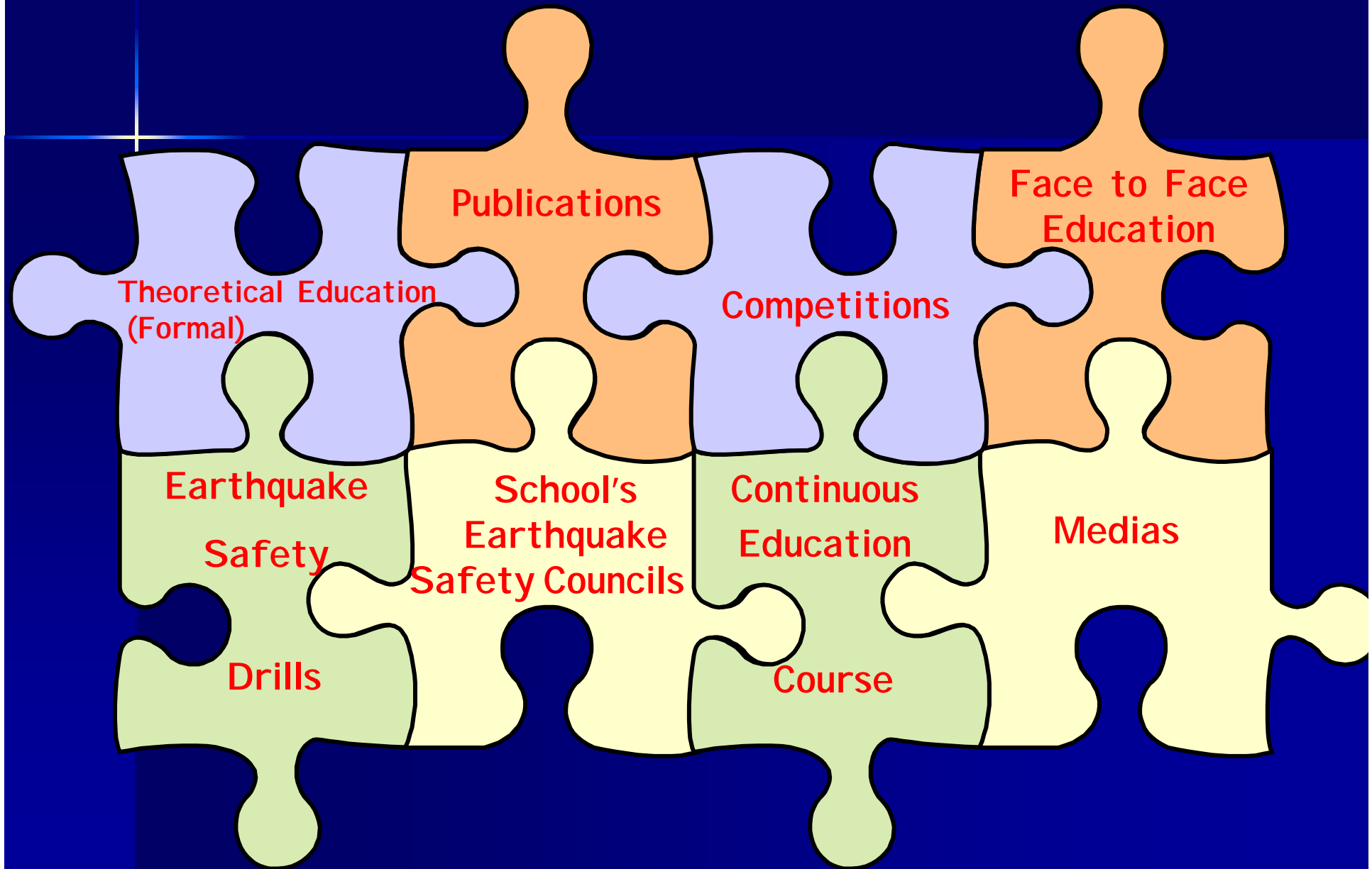
**Produced and broadcasted programs
by IRI News Network**

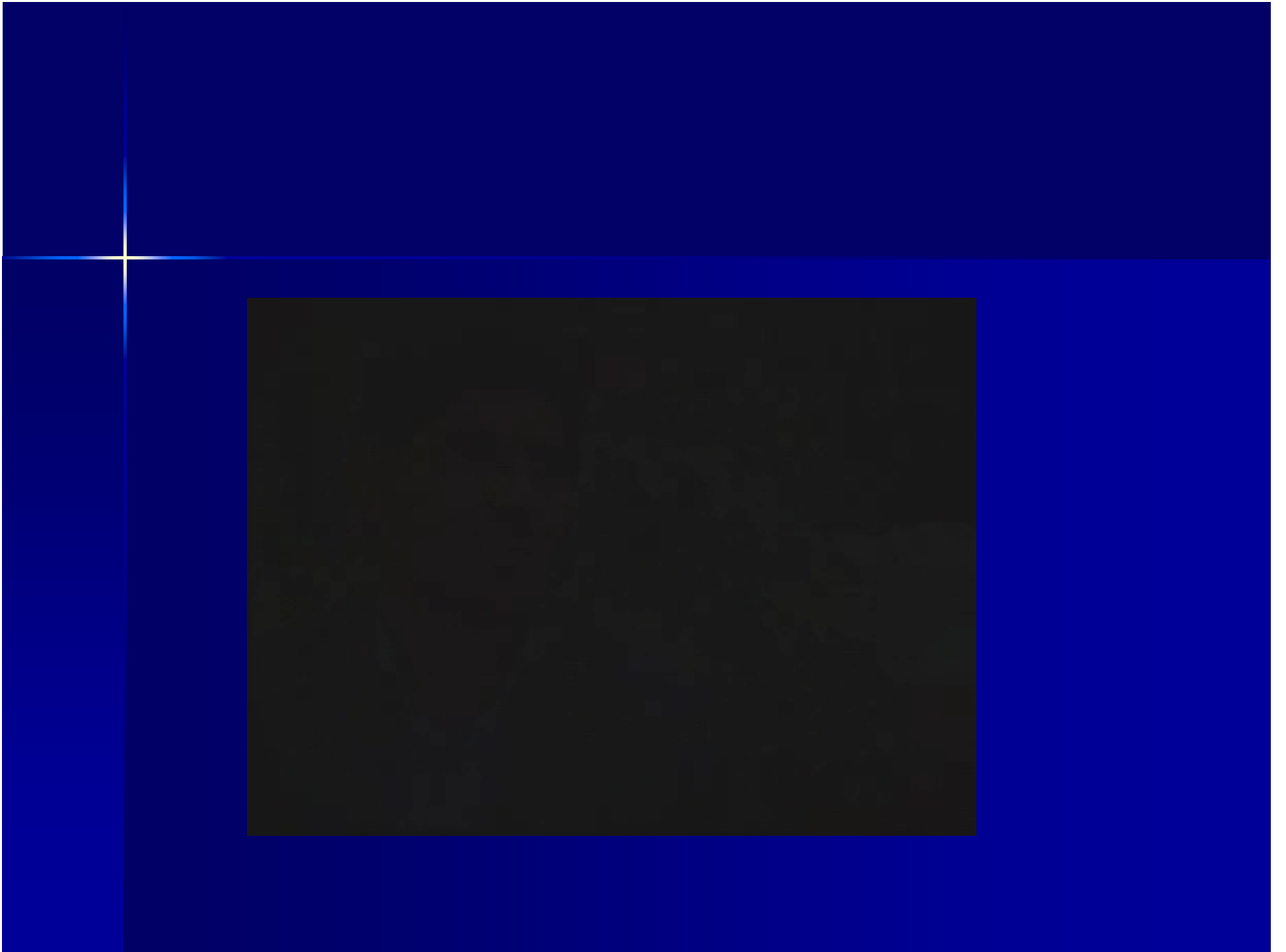
Title	Number	Timing (min)	Total timing (min)
Special Program	3	12	36
Scientific	2	12	24
Total	5		60

Table of Provinces Reports on 6th National Earthquake Drill in School's

Report to Tehran			Local broadcasting		Produced programs	
Correspondence news (number)	No comment reports (Number)	Phone reports (number)	Radio news (min)	TV news (min)	Radio (min)	TV (min)
95	57	47	271	301	16	62

Comprehensive Public Education Program in Schools





Today's Bam

- ✓ Tons of beautiful Dates on the tall palm trees have created the beautiful scene of Life and Nature, as well as Hope for future.
- ✓ Over expected level of activities (Construction, Markets, Traffic, Offices, etc.) shows Hope and Life in Bam.
- ✓ NGO's, Welfare and Social offices are among the most popular group in Bam.
- ✓ UNICEF Child Friendly Cities Initiative in Bam has recognized as successful work.
- ✓ Almost all of debris have been removed, thus only construction can be seen and not the damages.

Today's Bam

- ✓ The private business is very good in the temporary shops and shelters; thus the will for construction of markets and shops are not high and has become the second priority.
- ✓ The wealthy class of Bam residents are not happy with the presence of the immigrants of the low income people from the villages and the labors, creating social class issue.
- ✓ People are happy with the most of the government efforts as well as some of the international NGO's performance.



Life Continues with ...



The Unexpressed Experiences of Bam Earthquake

- Have you experienced precursors of earthquake from 48 hours before the occurrence of earthquake;
- Your experiences of being trapped under the debris;
- Your experiences of injuries and rescue operations;
- Your experiences of burying the loved ones;
- Your experiences of living in shelters (temporary settlements);
- Your experiences of permanent settlement;
- The social, psychological, economic, and cultural problems;
- Your experiences of the first day of school
- Daily life
- Faith and hope for future

Earthquake Public Education = unconsciousness' Preparedness

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