

ARMENIA

I. Natural hazards in Armenia

1.1 Natural hazards likely to affect the country

Earthquake (every year), flood (almost every year), strong wind (once a couple of year), snowstorm (almost every year), frost (almost every year), hail (once a couple of year).

1.2 Recent major disasters

Date/s of Occurrence	Disaster Type	No. of People Affected	No. of People Killed	Cost of Damage in USD
2004	Flood	Not available	0	2,156,112
2004	Rock avalanche	Not available	0	Not available
2004	Landslide	Not available	0	Not available
2004	Strong wind	Not available	0	Not available
2004	Snowstorm	Not available	1	Not available
2004	Heavy rain	Not available	0	Not available
2004	Frost	Not available	0	16,233,445
2004	Hailstorm	Not available	0	7,658,556
2004	Earthquake	Not available	0	Not available

- In March 2005 Earthquake near Vardenis city in Gegharkunik region caused minor structural damage and local population concern.

Armenian National Survey for Seismic Protection (Armenian NSSP) Reconnaissance Team comprising the seismologists, structural engineers, geologists and psychologists rushed to the epicentral zone for immediate response and provided relevant investigation. Recommendations have been made and presented to the Government to undertake the appropriate measures for recovery and retrofitting the damaged structures.

- In April 2004 the temperature has strikingly dropped by 15 degrees and caused severe frost damaging crops in vast agriculture area. To help the farmers to cover losses the Government provided funding of the amount of USD16M. for recovery and rehabilitation.
- In spring 2004 the severe hailstorms caused substantial damage to crops and lifelines. The Government has responded providing the appropriate funding (USD7.6M) for recovery and rehabilitation.

II. Disaster Management System

1. Administrative system

<i>Conventional long form:</i>	Republic of Armenia
<i>Conventional short form:</i>	Armenia
<i>Government type:</i>	Republic
<i>Capital:</i>	Yerevan
<i>Administrative divisions:</i>	11 provinces (marzer, singular - marz); Aragatsotn, Ararat, Armavir, Geghark'unik', Kotayk', Lorri, Shirak, Syunik', Tavush, Vayots' Dzor, Yerevan

The Government of the Republic of Armenia recognizes that the integration of mutual efforts aimed at minimizing natural hazards and ecological disasters is one of the most effective mechanisms of ensuring sustainable development will attach special importance to the joint preparation and implementation of regional programs on reduction of hazards and disasters bearing a cross border nature through highlighting their both.

The main directions of pursuing the national policy in the area of disaster reduction are made through close cooperation with international organizations, foreign states, including the states of the South Caucasus and neighboring countries, involvement of national and local governance bodies, NGOs and the population in developing and implementing initiatives to minimize emergency risks.

2. Legal system, legal framework

Following the World Summit on Environment and Development (Rio de Janeiro, 1992) the Republic of Armenia has signed and ratified about two tens of Conventions and associated Protocols, including Kyoto Protocol on greenhouse effect.

The National Assembly of the Republic of Armenia has passed more than two tens of Laws in the field of disaster reduction, including the following basic Laws:

1. Law on the Protection of the Population in Emergency
2. Law on Seismic Protection
3. Law on Fire Security
4. Law on Safe Utilization of Atomic energy for Peaceful Purposes
5. Law on Environmental Education and Public Awareness

6. Law on Task Force and Status of a Rescuer
7. Principals of Environmental Legislation

Alongside the Government of the Republic of Armenia has adopted about 40 Regulations directed at developing and introducing targeted activities on risk reduction. From those the noteworthy are: Regulation N 429 of 10 June 1999 “About the complex Program on Seismic Risk Reduction in the territory of Armenia” and Regulation N 796 of 31 December 1999 “About the Program for 2000-2004 on the reduction of emergency situations and the liquidation of consequences thereof and the protection of the population”.

At present the Republic of Armenia is being involved in realization of the National Program on Partnership and Cooperation Agreement between the Republic of Armenia and the European Union and state-members of the Union. The program among other important directions incorporates also the problems of harmonization of legislation in the field of disaster reduction.

3. Structure of disaster management

In the Republic of Armenia the structure on multi-coordination and cooperation in the field of disaster reduction presented by the system of the protection of the population in emergencies. These systems incorporate the national and local governance bodies and establish authorities of the bodies covered by those systems in disaster reduction.

4. Priority on disaster risk management

Viewing the disaster risk reduction as a priority policy the Government of the Republic of Armenia has assigned political commitment through creating and up-dating an adequate national legislative base in particular, for the community based capacity building for training and education of different sections of population.

III. Disaster management plan

(1) Sort of plan

The State Complex Program on Seismic Risk Reduction in the Territory of Armenia”.

(2) Legal Basis

Regulation of the Government of the Republic of Armenia N 429 of 10 June 1999 followed by the “Law on Seismic Protection“ of the Republic of Armenia.

(3) Date of creation

Created in 1999, revised and updated in 2002

(4) Content

The seismic risk in Armenia has reached to it's highest level during the whole historical period. The general objective of the program is seismic risk reduction in the territory of Armenia with the commitment to ensure the sustainable development and population safety. The Program includes the solution of three major problems:

1. Seismic hazard assessment
2. Seismic risk assessment
3. Seismic risk reduction.

The basic principles of seismic risk reduction strategy in the territory of Armenia are as follows:

- preparedness priority over the recovery,
- priority of all the elements of seismic risk reduction in the field of preparedness,
- synergical efforts of ministries, departments, public organizations ,
- simultaneous realization of sub-programs in all the directions of seismic risk reduction,
- internationalization of the program by involving the best international geoscience’s centers
- involving of foreign donors and investors for funding of the program,
- multistage (short, medium and long term) nature of the program.

The program will be implemented by the joint efforts of ministries, departments and public organizations in the period of time up to 30 year. The Armenian NSSP is responsible for the implementation of the program. The implementation of the program will raise the seismic awareness and preparedness of population. It will result in the significant reduction of next seismic hazard and risk and will support the sustainable societal and economic development of the country.

IV. Annual budget for disaster management

The measures on disaster risk reduction are being carried out through the national budget according to the relevant Laws. The national budget

includes the Reserve Fund to be used in case of emergency. The functioning of Armenian NSSP and Emergency Management Administration is being funded for the amount of USD7M for 2006 fiscal year.

V. Progress and Situation of HFA (Hyogo Framework for Action)

- **Priority area 1**
Development of institutional basis for DRR strategy implementation.
Upgrade of the National Legislation, harmonization and bringing it in line with internationally accepted principles.
- **Priority area 2**
Identify, assess and monitor disaster risks and enhance early warning.
Development of earthquake early warning system for Yerevan city.
- **Priority area 3**
Use knowledge, innovation and education to build a culture of safety and resilience.
In-depth development of Geographical Information System for seismic risk reduction.
- **Priority area 4**
Reduce the underlying risk factors.
Seismic isolation is provided to reduce earthquake disaster risk in Zvartnots International Airport in the city of Yerevan.
- **Priority area 5**
Strengthen disaster preparedness for effective response at all levels.
National Campaign on Public Awareness and Preparedness at national and municipal levels.

VI. Projects on Disaster Management

Project 1

(1) Sectional Topic: Objectives and Targeted Actions

Highlight main objectives of seismic protection and its management
Drawing up the system of measures for seismic safety of the country

(2) Actors

Armenian National Survey for Seismic Protection
Armenian Association of Seismology and Physics of the Earth

(3) Partners

Open Society Institute, Eurasia Foundation

(4) Title

Seismic Protection and its Development (textbook)

(5) Contents

Key issues discussed in the textbook include:

General information on earthquakes and seismicity

Seismic hazard and risk assessment

Seismic risk reduction

Earthquake disaster and its emergency stage

Rehabilitation and reconstruction management in the disaster area

(6) Means of implementation

Publication

(7) Target year

2004

(8) Target area/place

Republic of Armenia

(9) Expected outcome

Raising earthquake disaster awareness and preparedness through the dissemination among potential stake-holders.

Project 2

(1) Sectional Topic: Objectives and Targeted Actions

Seismic hazard assessment for earthquake disaster risk reduction

Installation of shaking measuring devices

(2) Actors

Armenian National Survey for Seismic Protection

Armenian Association of Seismology and Physics of the Earth

(3) Partner

Civilian Research and Development Foundation

(4) Title

Development of Armenian national strong motion network

(5) Contents

Background and State of the Art

Creation of attenuation model

Selection of sites for strong ground motion instruments installation

Seismic hazard monitoring at selected sites

(6) Means of implementation

Organizational and technical means

(7) Target year

2004

(8) Target area/place

Residential buildings in Yerevan city

(9) Expected outcome

Ground shaking instrumental definition for buildings vulnerability (risk) reduction

Project 3

(1) Sectional Topic: Objectives and Targeted Actions

Seismic hazard estimation, creation of database

(2) Actors

Armenian National Survey for Seismic Protection
Aspinall & Associates LLC

(3) Partner

Enconet Consulting GmbH

(4) Title

Seismic Hazard Evaluation at the Armenian Nuclear Power Plant (ANPP)

(5) Contents

Earthquake catalogues and focal mechanisms
Seismotectonics synthesis and seismic source models
Attenuation relationships and definition of the site seismic category

(6) Means of implementation

Organizational and technical means

(7) Target year

2006

(8) Target area/place

ANPP

(9) Expected outcome

Re-evaluation of seismic hazard at ANPP for disaster risk assessment

VII. ADRC Counterpart

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