

Emergency Management Administration of the Republic of Armenia

R E P O R T

O N

THREATENING RISKS OF NATURAL DISASTERS AND  
THE ARRANGEMENTS CONDUCTED IN MAJOR CITIES  
(YEREVAN) ON THE TERRITORY OF ARMENIA

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## FUNDAMENTAL TENETS

Recently 150 countries all over the world consolidated within the framework of IDNDR and began to realize some scientific and applied matter, which aims at attracting the attention of government and nation to the Natural Disaster Reduction.

The territory of the Republic of Armenia is exposed also to the influence of natural disasters (earthquakes, windstorms, heavy showers, landslides, freezings, light frosts, droughts, hails, snowstorms, etc).

During the last 5-6 years the number of threatening factors increased. It is the result of the economic crisis and man's wrong interference to the environment. For example, due to the shortage of the energy-bearers in the Republic, the population illegally realizes the felling of trees on a mass scale.

## EARTHQUAKES

According to the historical information on the territory of Armenia and Small Caucasus during last 2000 years occurred strong and destructive earthquakes, 25 from which fall to lot of Armenia's present territory.

According to the existing information all strong earthquakes were accompanied with great deal of human lives losses, destructions of settlements communication systems, displaces of the condition of underground waters, relief changes and other dangerous effects.

On the aforementioned area earthquakes especially turned more active during last 20 years, there were 7 of them, which impact was M-6,4-7,7 magnitude. Taking into account the fact of seismic activization and the information provided by the UN department experts, now the attention from the seismic viewpoint is given to the possible major earthquakes, that might occur on the territory of Yerevan. Taking into account the density of the population on this territory and presence of objects having dangerous technologies, the work on creating a programme providing the safety of the population is being conducted. This enclosed report is a part of this programme ("Seismic Risk Assessment and Its Reduction on the territory of Yerevan").

## THREAT OF LANDSLIDES IN YEREVAN

Landslides in general are characteristic for the area of Armenia. Now there are known about 2200 landslides-threatening territories, from which 1200 are directly dangerous for the life-support objects and population.

There are following threatening landslides' hearthes in the capital of the Republic:

- 4,3 km section of the Eastern round-road transport in Yerevan;
- 3,0 km section of Arzni-Yerevan water-carrier in Yerevan;
- 140 hectares area of Nubarashen cemetery in Yerevan;

In 1986 a scheme map of geological dangerous exogen processes in Armenia was published (1:200.000 scale, in which the facts until 1980 had been used).

Now it's necessary to prepare a programme about geological dangerous exogen processes in the area of the Republic of Armenia on the basis of the latest facts.

In December 1995, the Prime-Minister of Armenia made a decision about the precautive measures against the geological dangerous exogen processes on the territory of Armenia.

### MUD-FLOWS.

North-East and East parts of Yerevan are situated on the cones - bearing-outs of mud-bearing rivers Getar, Jrvezh and Vokhchaberd. Not once they caused great damage to Yerevan, flooding houses and taking lives of people. There are known such mud-floodings occurred in Yerevan, as in 1873, 1908, 1924, 1925, 1946, 1948, 1953, 1955.

The catastrophic mud-flow occurred in May, 25, 1946 in Getar channel was disastrous either by its force and scales of destruction. In the result of this mud-flow 800 houses had been destroyed fully, 630 - partially, the number of victims reached 200.

After the mud-flow of 1946 there was built up a heavy-shower regulator in Getar channel, wood-meliorative arrangements were fulfilled, and breastwalls were constructed within the city-boundaries of Yerevan.

The above-mentioned preventive measures rendered harmless Getar river, but the threat posed to Yerevan by Djrvezh and Vokhchaberd rivers still remains. Besides mud-flows the suffosion processes destroy the banks of Vokhchaberd river, threatening dwelling houses in the Frehuni region

For the prevention of the danger posed by Djrvezh and Vokhchaberd mud-flows we consider the most expedient to be the construction of the reservoirs-shower regulators higher Yerevan. Such construction will assist to some extent to the solution of problems of melioration of anti-erosion afforestations on slope grounds.

## CONCLUSION

Taking into account the thesis accepted by the UN General Assembly that every country is responsible for the protection of its nation, its substructures and other national values from the natural disasters, Armenian lately-created Republic carried out the following activities:

- 1991 - the Emergency Management Administration was established following the Decree of the President of the Republic of Armenia.
- 1991 - the National Survey of Seismic Protection attached the Government of the Republic of Armenia was established following the Decree of the Government of the Republic of Armenia.
- 1993 - with the purpose of realizing the arrangements of the International Decade for Natural Disaster Reduction (INDNR) proclaimed by UN, the Government of the Republic of Armenia made a decision to establish National Coordination Committee, whose working functions are regulated by the Emergency Management Administration.
- 1995 - Earthquake Resistive Construction Design Codes of the Republic of Armenia and enclosed to them Seismic Belting Map were put into circulation.
- 1995 - the Decree of the President of the Republic of Armenia on the organization activities of the Civil Protection System of the Republic of Armenia.

The aforementioned general legislative documents give us an opportunity to create the coordination activities for the natural disaster reduction.