

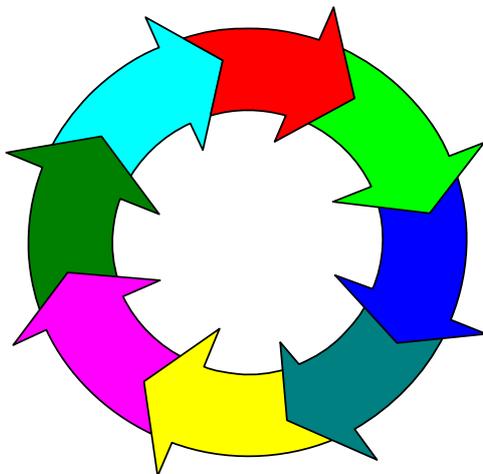
Natural disasters risk mitigation measures in Uzbekistan



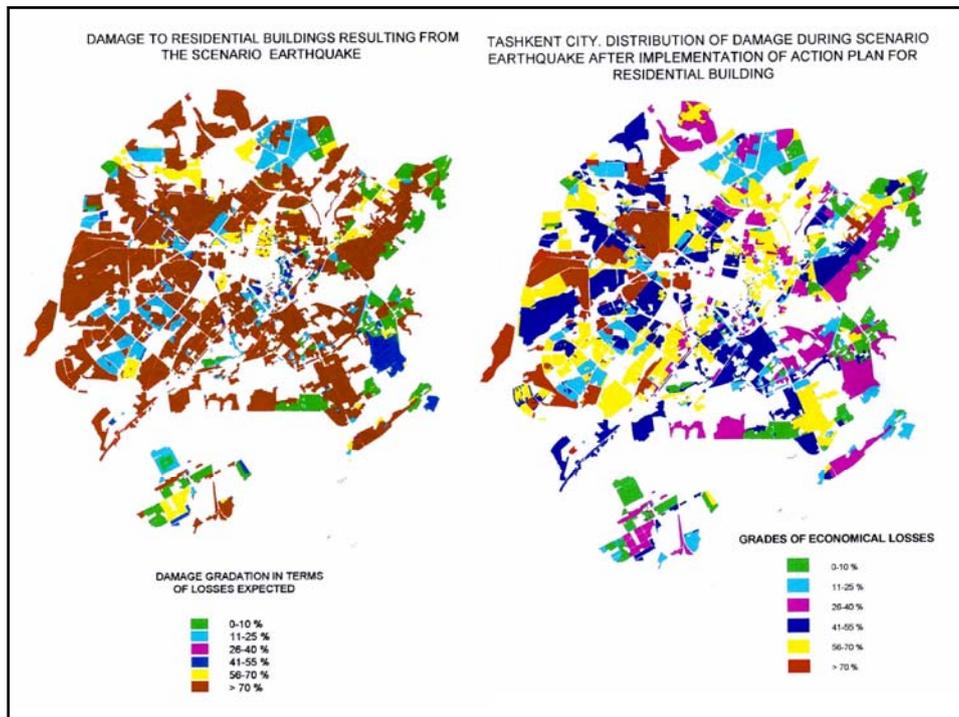
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Integral approach to risk mitigation



- Hazard analysis
- Risk analysis
- Planning of measures
- Implementation of measures
- Community preparedness
- Emergency response
- Rehabilitation



Some measures for protection of population from natural disasters, adopted in Uzbekistan last years

1996 – New building code KMK 2.01.02-96 "Construction in Seismic Zones".

1998 – Law of Republic of Uzbekistan "About protection of population and territories from natural and technogenous disasters"

2000 – Law of Republic of Uzbekistan " About civil protection"

2004 – “State National Program of Development of School Education for years 2004-2009” has been accepted.

Risk factors ratings with weight estimation

No.No.	Risk factors	Units	Interval values			Factor weight
1	Intensity	Units MSK-64	7	8	9 и >	2,0
2	Earthquake recurrence	Once in 100 years	< 0,01	0,1	>1	2,0
3	Earthquakes of low and medium intensity	Units MSK-64	4-5	5-6	6-7	1,5
4	Soil type by seismic properties	type	I	II	III	1,5
5	Soil type by mechanical properties	type	не пр о с а д о ч н ы й	I	II	1,5
6	Groundwater level	m	< 3	4-6	>6	1,5
7	Deficit of seismic resistance	Units MSK-64	0-1	1	2-3	2,0
8	Number of floors	floor	< 3	4-5	> 5	1,0
9	Quality of engineering geological investigations	-	high	medium	low	1,0
10	Quality of design	-	high	medium	low	0,5
11	Quality of materials	-	high	medium	low	1,5
12	Quality of construction	-	high	medium	low	2,0
13	Quality of maintenance	-	high	medium	low	1,0

Assessment of factors of risk definition for city

No.No.	Risk factors	Units	Interval values			W
1	Density of construction	m ² /ha	low	medium	high	0,5
2	Density of population	person/km ²	<100	101-1000	>1000	1
3	Population	person	<2000	2001-5000	>5000	1
4	Percent of individual construction	%	≤5	5,1+15	>15	1
5	Percent of urbanized territory with soft soils	%	≤5	5,1+20	>20	0,5
6	Percent of urbanized territory with soils susceptible for liquefaction	%	≤5	5,1-10	>10	0,8
7	Area of urbanized territory	km ²	≤50	50-100	>100	0,06
8	Percent of buildings with residents	thous. m ²	≤1000	101-10000	>10000	0,14

Reinforcement of school buildings

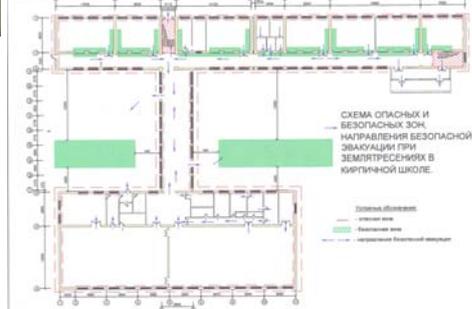


masonry



frame – panel

Preparedness begin at schools



Some published brochures



Problems must be solved: vulnerability of buildings in cities



**Problems must be solved:
vulnerability of buildings in villages**



**Thank you for
attention**