

1. GENERAL INFORMATION:

Name (ID):		Occupancy:	<input type="checkbox"/> Hospital <input type="checkbox"/> Health Center <input type="checkbox"/> other: _____
Address:		No. of:	<input type="checkbox"/> inhabitants/occupants: _____ <input type="checkbox"/> beds: _____ <input type="checkbox"/> patients: _____ <input type="checkbox"/> medical staff/employees: _____
Contact:			
Coordinates:	Latitude _____ Longitude _____	Occupancy period:	<input type="checkbox"/> 24 h <input type="checkbox"/> 12 h <input type="checkbox"/> 8 h <input type="checkbox"/> morning <input type="checkbox"/> afternoon from: _____ to: _____
Structural characteristics:	Typology of the primary structure: _____ _____ no. of individual buildings: _____ no of stories (basements): _____ (_____) interstory height: _____ m no. of cores: _____ plan shape: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> L <input type="checkbox"/> U <input type="checkbox"/> T max. length L: _____ m max. width W: _____ m	Age:	<input type="checkbox"/> < 10 years <input type="checkbox"/> 10 – 20 years <input type="checkbox"/> 20 – 40 years <input type="checkbox"/> > 40 years <input type="checkbox"/> year of construction: _____
		Actual state:	<input type="checkbox"/> good (new) <input type="checkbox"/> recently renovated <input type="checkbox"/> in need of renovation <input type="checkbox"/> bad (decayed)
		Maintenance program:	<input type="checkbox"/> exists <input type="checkbox"/> does not exist if yes, in which period: _____
Photo ID's:		Topography:	<input type="checkbox"/> plane (flat) <input type="checkbox"/> sediment basin (valley) <input type="checkbox"/> close to river <input type="checkbox"/> foothill (base of slope) <input type="checkbox"/> slope situation <input type="checkbox"/> ridge (top of slope; hilltop)
Screeener/date:			

2. STRUCTURAL SEISMIC VULNERABILITY:

No.	FEATURES AFFECTING THE STRUCTURAL SEISMIC VULNERABILITY	RC			URM		
		YES	NO	NA	YES	NO	NA
01	Is the building irregular in plan?	8	0		10	0	
02	Are the columns regularly distributed?	0	4				
03	Are both building directions adequately braced (RC frames or shear walls, URM walls)?	0	16		0	20	
04	Does the ratio between the building's length and width is > 2.5 ?	4	0		10	0	
05	Does the building possess eccentric cores (staircases or elevators)?	8	0		10	0	
06	Does the building have a soft story?	16	0	0			
07	Is the building irregular in elevation caused by setbacks of upper stories?	8	0	0	20	0	0
08	Does the building have cantilevering upper stories?	8	0	0	10	0	0
09	Does the building possess a heavy mass at the top or at roof level?	4	0		5	0	
10	Are pounding effects possible?	4	0		5	0	
11	Does the building have short columns?	8	0				
12	Are strong beams–weak columns available?	16	0				
13	Does the building possess shear walls ?	0	4				
14	Did the building suffer any significant structural damage in the past?	4	0		5	0	
15	Does the building possess seismic retrofitting or strengthening measures?	0	8		0	5	
SUM				max 120			max 100
NO. OF ANSWERED QUESTIONS				12 or 15			8 or 10
STRUCTURAL VULNERABILITY INDEX SVI (= Sum ÷ No. of questions)							

3. NON-STRUCTURAL SEISMIC VULNERABILITY:

No.	FEATURES AFFECTING THE NON-STRUCTURAL SEISMIC VULNERABILITY	YES	NO	NA
I. Electrical Facilities				
01	Is there an emergency generator and fuel tank available?	0	16	
02	If yes, are both located outside the building? (if Q01 = NO → NA)	0	16	0
03	If outside, in a certain distance such that e.g. parts of the building can not fall on them? (if Q01 = NO → NA)	0	8	0
04	Are they adequately secured? (if Q01 = NO → NA)	0	8	0
05	Are service lines and other pipes attached with flexible connections?	0	16	
06	Are they able to accommodate relative movement across joints?	0	16	0
07	Are bus ducts and cables able to distort at their connections to equipment without rupture?	0	8	
08	Are they able to accommodate relative movement across joints?	0	8	
II. Fire Fighting				
09	Are there smoke detectors and alarms available?	0	4	
10	Are there enough fire extinguishers and hose-reel cabinets available?	0	16	
11	Are they easily accessible? (if Q10 = NO → NA)	0	16	0
12	Is the emergency water tank located outside the building?	0	16	
13	If located outside, can it collapse or be damaged during an earthquake by falling parts? (if Q12 = NO → NA)	8	0	0
III. Propane pipes or any other gas pipes (e.g., oxygen)				
14	Does the system have an automatic, earthquake-triggered shut-off valve ?	0	16	
15	If not, can it be easily closed manually e.g. by a wrench tool stored close by? (if Q14 = YES → NA)	0	16	0
16	Are supply pipes able to accommodate relative movement across joints and at the tank?	0	16	
17	Are supply pipes able to distort at their connections to equipment without rupture?	0	16	
IV. Elevators				
18	Are elevators available?	4	0	
19	Are elevators maintained and are they regularly (every 2 months) controlled? (if Q18 = NO → NA)	0	4	0
20	Are motors and control cabinets anchored to the floor? (if Q18 = NO → NA)	0	4	0
V. Non-structural Infill Walls and Partitions				
21	Are (infill) brick walls protected against out-of-plane failure by e.g. internal reinforcement or surface meshes?	0	8	
22	Do movement joints between brick infill walls and RC frames exist to allow damage-free movement? (for masonry buildings → NA)	0	8	0
VI. Ceilings				
23	Are suspended ceilings available?	4	0	
24	Are the suspended ceilings adequately secured against failure? (if Q23 = NO → NA)	0	4	0
VII. Emergency Exits and Escape Routes				
25	If exit fire doors jam in an earthquake, is there a crowbar or sledge hammer readily available to facilitate emergency opening?	0	16	
26	Do all exit doors open outwards?	0	16	
27	Are all doors unlocked from the inside and also unblocked?	0	16	
28	Are automatic doors available?	8	0	
29	Do automatic doors have manual overrides? (if Q28 = NO → NA)	0	8	0
30	Has the glazing of windows been designed to accommodate lateral movement?	0	4	
31	Do large windows, door transoms and skylights have safety glass?	0	4	
32	Are emergency exits and escape routes adequately designated, e.g. by fluorescent signs?	0	8	
33	Are emergency exits and escape routes adequately illuminated?	0	8	

No.	FEATURES AFFECTING THE NON-STRUCTURAL SEISMIC VULNERABILITY (cont'd)	YES	NO	NA
VIII. Appendages				
34	Can nonstructural elements (e.g. parapets, facade cladding, roof tiles, chimneys, external AC machines) fall from the building and harm people running outside?	8	0	
IX. Movable Equipment				
35	Are gas cylinders tightly secured with chains at top and bottom (or otherwise)?	0	8	
36	Are chemicals stored in accordance with manufacturers recommendations?	0	4	
37	Are cabinets for hazardous materials given special attention with respect to anchoring?	0	8	
X. Appurtenant structures				
38	Are there enough open spaces around the building which can be used as escape routes and where people are safe from falling objects?	0	16	
39	Can neighboring structures (e.g. buildings, walls, electricity lines) block escape routes or harm people running/gathering outside?	8	0	
40	Can road access to and from the hospital be blocked due to collapse of buildings or geotechnical effects (slope failure, landslide etc.)?	8	0	
SUM				max 404
NO. OF ANSWERED QUESTIONS				max 40
NON-STRUCTURAL VULNERABILITY INDEX <i>NVI</i> (= Sum ÷ No. of questions)				