

## GTZ Framework

Main factor	Indicator name	Indicator
<b>EXPOSURE</b>		
Structures	(E1) Number of housing units (E2) Lifelines	Number of housing units (living quarters) % of homes with piped drinking water
Population	(E3) Total resident population	Total resident population
Economy	(E4) Local gross domestic product (GDP)	Total locally generated GDP in constant currency
<b>VULNERABILITY</b>		
Physical/ demographic	(V1) Population Density (V2) Demographic pressure (V3) Unsafe settlements (V4) Access to basic services	People per km <sup>2</sup> Population growth rate Homes in hazard prone areas (ravines, river banks, etc) % of homes with piped drinking water
Social	(V5) Poverty level (V6) Literacy rate (V7) Attitude (V8) Decentralization (V9) Community participation	% of population below poverty level % of adult population that can read and write Priority of population to protect against a hazard Portion of self-generated revenues of the total budget % voter turn out at last communal elections
Economic	(V10) Local resource base (V11) Diversification (V12) Small businesses (V13) Accessibility	Total available local budget in US\$ Economic sector mix for employment % of businesses with fewer than 20 employees Number of interruption of road access in last 30 years
Environmental	(V14) Area under forest (V15) Degraded land (V16) Overused land	% of area of the commune covered with forest % of area that is degraded/eroded/desertified % of agricultural land that is overused
<b>CAPACITY MEASURES</b>		
Physical planning and engineering	(C1) Land use planning (C2) Building codes (C3) Retrofitting/ Maintenance (C4) Preventive structures (C5) Environmental management	Enforced land use or zoning regulations Applied building codes Applied retrofitting and regular maintenance Expected effect on impact-limiting structures Measures that promote and enforce nature conservation
Societal capacity	(C6) Public awareness programs (C7) School curricula (C8) Emergency response drills (C9) Public participation (C10) Local risk management/ emergency groups	Frequency of public awareness programmes Scope of relevant topics taught at school Ongoing emergency committee with public representatives Grade of organization of local groups
Economic capacity	(C11) Local emergency funds (C12) Access to national emergency funds (C13) Access to intl. emergency funds (C14) Insurance market (C15) Mitigation loans (C16) Reconstruction loans (C17) Public works	Local emergency funds as % of local budget Release period of national emergency funds Access to international emergency funds Availability of insurance for buildings Availability of loans for disaster risk reduction measures Availability of reconstruction credits Magnitude of local public works programmes
Management and institutional capacity	(C18) Risk management/emergency committee (C19) Risk map (C20) Emergency plan (C21) Early warning system (C22) Institutional capacity building (C23) Communication	

*Community based disaster risk indicators. (Source: Bollin/Hidajat 2006)*