

# Core Terminology of Disaster Reduction

by

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Term	Definition	Source	Discipline
Capacity	"The maximum amount of risk that can be accepted in insurance. One factor in determining capacity is government regulations that define minimum solvency requirements. Capacity also refers to the amount of insurance coverage allocated to a particular policyholder or in the marketplace in general." [73]	Swiss Re (2005)	Insurance Industry
Capacity	"A combination of all the strengths and resources available within a community, society or organization that can reduce the level of risk, or the effects of a disaster. Capacity may include physical, institutional, social or economic means as well as skilled personal or collective attributes such as leadership and management. Capacity may also be described as capability." [64]	UN/ISDR (2004)	United Nations
Capacity building	"Efforts aimed to develop human skills or societal infrastructures within a community or organization needed to reduce the level of risk. In extended understanding, capacity building also includes development of institutional, financial, political and other resources, such as technology at different levels and sectors of the society." [64]	UN/ISDR (2004)	United Nations
Capacity, adaptive	"The potential or ability of a system, region, or community to adapt to the effects or impacts of climate change. Enhancement of adaptive capacity represents a practical means of coping with changes and uncertainties in climate, including variability and extremes. In this way, enhancement of adaptive capacity reduces vulnerabilities and promotes sustainable development" (Goklany, 1995; Burton, 1997; Cohen et al., 1998; Klein, 1998; Rayner and Malone, 1998; Munasinghe, 2000; Smit et al., 2000) quoted in [47].	IPCC (2001) <i>p. 881</i>	Science (multidisciplinary)
Capacity, adaptive	"The degree to which adjustments in practices, processes, or structures can moderate or offset the potential for damage or take advantage of opportunities created by a given change in climate." [47]	IPCC (2001)	United Nations
Coping capacity	"The manner in which people and organisations use existing resources to achieve various beneficial ends during unusual, abnormal and adverse conditions of a disaster phenomenon or process." [66]	UNDP (2004)	United Nations
Coping capacity	"The means by which people or organizations use available resources and abilities to face adverse consequences that could lead to a disaster. In general, this involves managing resources, both in normal times as well as during crises or adverse conditions. The strengthening of coping capacities usually builds resilience to withstand the effects of natural and human-induced hazards." [64]	UN/ISDR (2004)	United Nations
Coping Capacity	"The ability to cope with threats includes the ability to absorb impacts by guarding against or adapting to them. It also includes provisions made in advance to pay for potential damages, for instance by mobilizing insurance repayments, savings or contingency reserves."		United Nations
Coping Capacity	"Is a function of: perception (of risk and potential avenues of action – the ability to cope is information contingent); possibilities (options ranging from avoidance and insurance, prevention, mitigation, coping); private action (degree to which special capital can be invoked); and public action" (e.g. Webb & Harinarayan 1999, Sharma et al. 2000) quoted in [47].	IPCC (2001)	Science (multidisciplinary)
Coping Capacity	"Refers to the manner in which people and organisations use existing resources to achieve various beneficial ends during unusual, abnormal, and adverse conditions of a disaster event or process. The strengthening of coping capacities usually builds resilience to withstand the effects of natural and other hazards." [29]	Europ. Spatial Planning Observ. Netw. (2003)	Science (multidisciplinary)
Climate Change	"The climate of a place or region is changed if over an extended period (typically decades or longer) there is a	UN/ISDR (2004)	United Nations

	<p>statistically significant change in measurements of either the mean state or variability of the climate for that place or region.</p> <p>Changes in climate may be due to natural processes or to persistent anthropogenic changes in atmosphere or in land use. Note that the definition of climate change used in the United Nations Framework Convention on Climate Change is more restricted, as it includes only those changes which are attributable directly or indirectly to human activity." [64]</p>		
Climate change	<p>"Climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period (typically decades or longer). Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use. Note that the →Framework Convention on Climate Change (UNFCCC), in its Article 1, defines "climate change" as: "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods". The UNFCCC thus makes a distinction between "climate change" attributable to human activities altering the atmospheric composition, and "climate variability" attributable to natural causes." [47]</p>	IPCC (2001)	United Nations
Catastrophe	<p>"In the English speaking world a differentiation is sometimes made between disaster and catastrophes. In the latter, most or all people living in a community are affected, as are the basic supply centers, so that help from neighbours is largely impossible (the affected people helping each other is a general phenomenon in disasters with a lower degree of severity)." [104]</p>	Quarantelli (1998)	Science (multidisciplinary)
Cost	<p>"Means the measurable economic losses due to failures, such as the loss of crops that not irrigated on time or the production in a factory, and any other loss incurred by failure to supply an adequate quantity of good quality water at the time it is required. Losses are very difficult to measure and quantify, especially those associated with the quality of life of urban consumers." [85]</p>	Shamir (2002)	Engineering
Disaster	<p>"Disasters combine two elements: events and vulnerable people. A disaster occurs when a disaster agent (the event) exposes the vulnerability of individuals and communities in such a way that their lives are directly threatened or sufficient harm has been done to their community's economic and social structures to undermine their ability to survive. A disaster is fundamentally a socio-economic phenomenon. It is an extreme but not necessarily abnormal state of everyday life in which the continuity of community structures and processes temporarily fails. Social disruption may typify a disaster but not social disintegration" [103]</p>	IFRC (1993) <i>pp. 12-13</i>	Disaster Relief
Disaster	<p>"A disaster is an unusually severe and/or extensive event that usually occurs unexpectedly and has such a severe impact on life and health of many people and/or causes considerable material damage and/or impairs or endangers the life of a large number of people for a long period of time to such an extent that resources and funding available at local or regional level cannot cope without outside help. The disaster qualifies as such when it becomes apparent that the available resources and funding are inadequate for the necessary and prompt relief. Relief provision systems that are capable of evolving from every day use and which integrate all the necessary components are required for effectively managing disasters." [30.11. 98 Report of the working group of the Permanent Conference on Disaster Reduction and Disaster Protection, DKKV Handbuch [40] p. 2.</p>	DKKV (2002) <i>p. 2</i>	Science (multi-disciplinary)
Disaster	<p>"External danger, the loss of development potential and the helplessness of the affected population [DKKV]; a serious disruption of the functioning of a society causing widespread human, material or environmental losses which exceed the ability of the affected society to cope using only its own resources." [40]</p>	DKKV (2002)	United Nations/ DKKV
Disaster	<p>"The result of a vast ecological breakdown in the relations between man and his environment, a serious and sudden event (or slow, as in drought) on such a scale that the stricken community need extraordinary efforts to cope with it, often with outside help or international aid." [77]</p>	Journ. of Prehospital and Disaster Medicine (2004)	Disaster Relief
Disaster	<p>"A hazard might lead to a disaster. A disaster by itself is an impact of a hazard on a community or area – usually defined as an event that overwhelms the capacity to cope with it." [29]</p>	Europ. Spatial Planning Observ. Netw. (2003)	Science (multi-disciplinary)
Disaster, remarks on	<p>"In summary, it can be determined that there is a problem of definition which affects the interpretation of vulnerability</p>	Feldbrügge & von	Science

	to disasters. Therefore, a list of important questions often cannot be answered clearly: When does a disaster begin? Who decides about shortcomings in the coping capacity of a society? When does the disaster end? What are the appropriate indicators for disasters? In addition, many definitions do not take differing vulnerabilities of population groups into account." [9]	Braun (2002)	(multi-disciplinary)
Disaster (Risk) Reduction	"The conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development. The disaster risk reduction framework is composed of the following fields of action, as described in ISDR's publication 2002 "Living with Risk: a global review of disaster reduction initiatives", page 23: · Risk awareness and assessment including hazard analysis and vulnerability/capacity analysis; · Knowledge development including education, training, research and information; · Public commitment and institutional frameworks, including organisational, policy, legislation and community action; · Application of measures including environmental management, land-use and urban planning, protection of critical facilities, application of science and technology, partnership and networking, and financial instruments; · Early warning systems including forecasting, dissemination of warnings, preparedness measures and reaction capacities." [64]	UN/ISDR (2004)	United Nations
Disaster Mitigation	"A collective term used to encompass all activities undertaken in anticipation of the occurrence of a potentially disastrous event, including preparedness and long-term risk reduction measures. The process of planning and implementing measures to reduce the risks associated with known natural and man-made hazards and to deal with disasters which do occur. Strategies and specific measures are designed on the basis of risk assessments and political decisions concerning the levels of risk which are considered to be acceptable and the resources to be allocated (by the national and sub-national authorities and external donors). Mitigation has been used by some institutions/ authors in a narrower sense, excluding preparedness. It has occasionally been defined to include post-disaster response, then being equivalent to disaster management, as defined in this glossary. " [105]	Dept. of Humanitarian Affairs (1994)	United Nations
Disaster Risk Management	"The systematic process of using administrative decisions, organization, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to a void (prevention) or to limit (mitigation and preparedness) adverse effects of hazards." [64]	UN/ISDR (2004)	United Nations
Early Warning	"The provision of timely and effective information, through identified institutions, that allows individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response. Early warning systems include a chain of concerns, namely: understanding and mapping the hazard; monitoring and forecasting impending events; processing and disseminating understandable warnings to political authorities and the population, and undertaking appropriate and timely actions in response to the warnings." [64]	UN/ISDR (2004)	United Nations
Exposure	"The economic value or the set of units related to each of the hazards for a given area. The exposed value is a function of the type of hazard." [29]	Europ. Spatial Planning Observ. Netw. (2003)	Science (multi-disciplinary)
Exposure	"The degree to which a risk or portfolio of risks is subject to the possibility of loss; basis for calculating premiums in (re)insurance." [102]	MunichRe (2002) p. 259	Insurance Industry
Exposure	Elements at risk, an inventory of those people or artefacts that are exposed to a hazard." [66]	UNDP (2004)	United Nations
Forecasting	"Definite statement or statistical estimate of the occurrence of a future event (UNESCO, WMO). This term is used with different meanings in different Disciplines." [64]	UN/ISDR (2004)	United Nations
Hazard	"A property or situation that under particular circumstances could lead to harm. More specific, a hazard is a potentially damaging physical event, phenomenon or human activity, which may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Hazards can be single, sequential or combined in their origin and effects. Each hazard is characterised by its location, intensity and probability." [29]	Europ. Spatial Planning Observ. Netw. (2003)	Science (multi-disciplinary)

Hazard	"A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Hazards can include latent conditions that may represent future threats and can have different origins: natural (geological, hydrometeorological and biological) or induced by human processes (environmental degradation and technological hazards). Hazards can be single, sequential or combined in their origin and effects. Each hazard is characterised by its location, intensity, frequency and probability." [64]	UN/ISDR (2004)	United Nations
Hazard	"The probability of occurrence associated with an extreme event that can cause a failure." UNDRO quoted in [78]	Plate (2002)	United Nations
Hazard	"The probability of the occurrence of a disaster caused by a natural phenomenon (earthquake, cyclone), or by failure of man-made sources of energy (nuclear reactor, industrial explosion) or by uncontrolled human activity (overgrazing, heavy traffic, conflicts).-UNDRO Some authors use the term in a broader sense, including vulnerability, elements at risk and the consequences of risk." [77]	Journ. of Prehospital and Disaster Medicine (2004)	United Nations/ Science (multi-disciplinary)
Hazard, natural	"Natural processes or phenomena occurring in the biosphere that may constitute a damaging event." [66]	UNDP (2004)	United Nations
Hazard, natural	"Natural hazards are dynamic phenomena that involve people not only as victims but also as contributors and modifiers." (Kates 1996) quoted in [6]	Rashed & Weeks (2002)	Science (multi-disciplinary)
Hazard	"...there is a distinction between an event, a hazard, and a disaster. A natural event, whether geological, climatological, etc., is simply a natural occurrence, whereas a hazard, geological or otherwise, is the potential danger to human life or property." [91]	Rahn (1996) <i>p. 489</i>	Science
Human Security	"Human Security can no longer be understood in purely military terms. Rather, it must encompass economic development, social justice, environmental protection, democratization, disarmament, and respect for human rights and the rule of law." [10a]	Annan (2005)	United Nations
Human Security	"In policy terms, human security is an integrated, sustainable, comprehensive security from fear, conflict, ignorance, poverty, social and cultural deprivation and hunger, resting upon positive and negative freedoms." [10b]	Ginkel & Newman (2000)	United Nations
Human Security	"Human Security is about attaining the social, political, environmental and economic conditions conducive to a life in freedom and dignity for the individual." [10c]	Hammerstad (2000)	United Nations
Human Security	[To achieve] "human security, recognizing the inter linkages of environment and society, and acknowledging that that our perceptions of our environment and the way we interact with our environment are historically, socially, and politically constructed. In this context human security is achieved when and where individuals and communities: <ul style="list-style-type: none"> <li>- have the options necessary to end, mitigate, or adapt to threats to their human, environmental, and social rights</li> <li>- have the capacity and the freedom to exercise these options; and</li> <li>- actively participate in attaining these options.</li> </ul> Human security embodies the notion that problems must always be addressed from a broader perspective that encompasses both poverty and issues of equity (social, economic, environmental, or institutional) as it is these issues that often lead to insecurity and conflict." [10d]	Lonergan et al. (2000)	United Nations
Human Security	"The Commission on Human Security's definition of human security: to protect the vital core of all human lives in ways that enhance human freedoms and human fulfilment. Human security means protecting fundamental freedoms—freedoms that are the essence of life. It means protecting people from critical (severe) and pervasive (widespread) threats and situations. It means using processes that build on people's strengths and aspirations. It means creating political, social, environmental, economic, military and cultural systems that together give people the building blocks of survival, livelihood and dignity." [36]	Comm. Hum. Sec. (2003)	United Nations
Indicator	"An indicator is the representation of a trend. It trends measurable change in some social, economic, or environmental system over time. Generally an indicator focuses on a small, manageable, and telling piece of a system to give people a sense of the bigger picture." [79]	King County Indicators Initiative Partners (2004)	Civil Society
Indicator	"Indicators are statistical measurements, rates, and indices of financial and social trends, used to help economists and	Investor Dictionary	Economics

	financial analysts determine the business growth patterns and the overall direction of the economy.” [80]	(2004)	
Indicator	“Indicators, in a simple way, can be defined as surrogates or proxy measures of some abstract, multi-dimensional concepts.” [23]	Wong (2001)	Science (multidisciplinary)
Indicator	“An indicator provides evidence that a certain condition exists or certain results have or have not been achieved (Brizius & Campbell, p.A-15). Indicators enable decision-makers to assess progress towards the achievement of intended outputs, outcomes, goals, and objectives. As such, indicators are an integral part of a results-based accountability system.” [81]	Horsch (2004)	Policy Making
Livelihood	“The means by which an individual or household obtains assets for survival and self-development. Livelihood assets are the tools (skills, objects, rights, knowledge, social capital) applied to enacting the livelihood.” [66]	UNDP (2004)	United Nations
Mitigation	“Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards.” [64]	UN/ISDR (2004)	United Nations
Mitigation	“Intervention in the measurement system in order to achieve the desired level of resilience can be defined as mitigation.” [8]	Petak (2002)	Geoscience
Preparedness	“Activities and measures taken in advance to ensure effective response to the impact of hazards, including the issuance of timely and effective early warnings and the temporary evacuation of people and property from threatened locations.” [64]	UN/ISDR (2004)	United Nations
Prevention	“Activities to provide outright avoidance of the adverse impact of hazards and means to minimize related environmental, technological and biological disasters. Depending on social and technical feasibility and cost/benefit considerations, investing in preventive measures is justified in areas frequently affected by disasters. In the context of public awareness and education, related to disaster risk reduction changing attitudes and behaviour contribute to promoting a ‘culture of prevention’.” [64]	UN/ISDR (2004)	United Nations
Recovery	“Decisions and actions taken after a disaster with a view to restoring or improving the pre-disaster living conditions of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk. Recovery (rehabilitation and reconstruction) affords an opportunity to develop and apply disaster risk reduction measures.” [64]	UN/ISDR (2004)	United Nations
Relief / response	“The provision of assistance or intervention during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected. It can be of an immediate, short-term, or protracted duration.” [64]	UN/ISDR (2004)	United Nations
Resilience	“Resilience is the flip side of vulnerability—a resilient system or population is not sensitive to climate variability and change and has the capacity to adapt.” [47]	IPCC (2001) p. 89	United Nations
Resilience	“The capacity of a system, community or society to resist or to change in order that it may obtain an acceptable level in functioning and structure. This is determined by the degree to which the social system is capable of organising itself, and the ability to increase its capacity for learning and adaptation, including the capacity to recover from a disaster.” [66]	UNDP (2004)	United Nations
Resilience	“Resilience is a measure of the recovery time of a system.” [38]	Correia et al. (1987)	Engineering
Resilience	“Qualities of people, communities, agencies, infrastructure that reduce vulnerability. Not just the absence of vulnerability rather the capacity to 1) prevent, mitigate losses and then if damage occurs 2) to maintain normal living conditions and to 3) manage recovery from the impact.” [21]	Buckle et al. (2000)	Disaster Relief/ Social Science
Resilience	“The ability to resist downward pressures and to recover from a shock. From the ecology literature: property that allows a system to absorb and use (even benefit from) change. Where resilience is high, it requires a major disturbance to overcome the limits to qualitative change in a system and allow it to be transformed rapidly into another condition. From the sociology literature: ability to exploit opportunities, and resist and recover from negative shocks.” [13]	Alwang et al. (2001)	Social Sciences/ Science (multidisciplinary)
Resilience	“The capacity of a group or organization to withstand loss or damage or to recover from the impact of an emergency or disaster. The higher the resilience, the less likely damage may be, and the faster and more effective recovery is likely to be.” [27]	Department of Human Services (2000)	Disaster Relief

Resilience	"The capacity that people or groups may possess to withstand or recover from emergencies and which can stand as a counterbalance to vulnerability." [28]	Buckle (1998)	Disaster Relief
Resilience	"A measure of how quickly a system recovers from failures." (Emergency Mngm. Australia, 1998) quoted in [21]	Buckle et al. (2000)	Disaster Relief
Resilience	"The capacity of a system, community or society potentially exposed to hazards to adapt by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures." [64]	UN/ISDR (2004)	United Nations
Resilience	Details of Resilience might be inherently unknowable – especially in the case of complex communities undergoing constant change. [20]	Handmer (2002)	Disaster Relief
Resilience	"Not just the absence of vulnerability. Rather it is the capacity, in the first place, to prevent or mitigate losses and then, secondly, if damage does occur to maintain normal living conditions as far as possible, and thirdly, to manage recovery from the impact." [21]	Buckle et al. (2000)	Disaster Relief
Resiliency	"Resiliency to disasters means a locale can withstand an extreme natural event with a tolerable level of losses. It takes mitigation actions consistent with achieving that level of protection." [99]	Mileti (1999)	Geosciences
Resiliency	"Pliability, flexibility, or elasticity to absorb the event. Resiliency is offered by types of construction, barriers, composition of the land (geological base), geography, bomb shelters, location of dwelling, etc. As resiliency increases, so does the absorbing capacity of the society and/or the environment. Resiliency is the inverse of vulnerability." [77]	Journ. of Prehospital and Disaster Medicine (2004)	Science (multidisciplinary)
Risk	"Risk of a system may be defined simply as the possibility of an adverse and unwanted event. Risk may be due solely to physical phenomenon such as health hazards or to the interaction between man-made systems and natural events, e.g. a flood loss due to an overtopped levee. Engineering risk for water resources systems in general has also been described in terms of a figure of merit which is a function of performance indices, say for example, reliability, incident period, and reparability..." [97]	Shrestha (2002)	Engineering
Risk	"Used in an abstract sense to indicate a condition of the real world in which there is a possibility of loss; also used by insurance practitioners to indicate the property insured or the peril insured against." [73]	Swiss Re (2005)	Insurance Industry
Risk	"The probability of harmful consequences, or expected loss of lives, people injured, property, livelihoods, economic activity disrupted (or environment damaged) resulting from interactions between natural or human induced hazards and vulnerable conditions. Risk is conventionally expressed by the equation: Risk = Hazard x Vulnerability." [66]	UNDP (2004)	United Nations
Risk	"Risk can be defined as the probability that a system is not in a satisfactory state. [Correira, Santos, Rodrigues: Engineering Risk in Regional Drought Studies. From Duckstein & Plate, Engineering Reliability and Risk in Water Resources." [38]	Correira et al. (1987)	Engineering
Risk	"The probability of exposure to an event, which can occur with varying severity at different geographical scales, suddenly and expectedly or gradually and predictably, and to the degree of exposure." [68]	UNEP (2002)	United Nations
Risk	"The risk associated with flood disaster for any region is a product of both the region's exposure to the hazard (natural event) and the vulnerability of objects (society) to the hazard. It suggests that three main factors contribute to a region's flood disaster risk: hazard, exposure, and vulnerability." [45]	Hori et al. (2002)	Geosciences
Risk	"A combination of the probability or frequency of occurrence of a defined hazard and the magnitude of the consequences of the occurrence. More specific, a risk is defined as the probability of harmful consequences, or expected loss (of lives, people, injured, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human induced hazards. " [29]	Europ. Spatial Planning Observ. Netw. (2003)	Science (multidisciplinary)
Risk	"Risk indicates the degree of potential losses in urban places due to their exposure to hazards and can be thought of as a product of the probability of hazards occurrence and the degree of vulnerability." [6]	Rashed & Weeks (2002)	Geosciences
Risk	"The expected number of lives lost, persons injured, damage to property and disruption of economic activities due to a particular natural phenomenon, and consequently the product of specific risk and element at risk. Specific risk: The expected degree of loss due to a particular natural phenomenon and as a function of both, natural hazard and	Tiedemann (1992)	Insurance Industry

	vulnerability." [74]		
Risk	<p>"The objective (mathematical) or subjective (inductive) probability that the hazard will become an event. Factors (risk factors) can be identified that modify this probability. Such risk factors are constituted by personal behaviours, life-styles, cultures, environmental factors, and inherited characteristics that are known to be associated with health-related questions.</p> <p>Risk is the probability of loss to the elements at risk as the result of the occurrence, physical and societal consequences of a natural or technological hazard, and the mitigation and preparedness measures in place in the community.</p> <p>Risk is the expected number of lives lost, persons injured, damage to property and disruption of economic activity due to a particular natural phenomenon, and consequently the product of specific risk and elements at risk. -UNDRO. " [77]</p>	Journ. of Prehospital and Disaster Medicine (2004)	Science (multidisciplinary)
Risk	(In this definition risk and hazard are used as synonyms)"Risk is characterized by a known or unknown probability distribution of events. These events are themselves characterized by their magnitude (including size and spread), their frequency and duration, and their history." [13]	Alwang et al. (2001)	Social Sciences
Risk	Risk is "the probability of an event multiplied by the consequences if the event occurs." [92]	Einstein (1988)	Natural Sciences
Risk	"Risk is a function of the probability of the specified natural hazard event and vulnerability of cultural entities." [93]	Chapmann (1994)	Natural Sciences
Risk	"'Risk' is the probability of a loss, and this depends on three elements, hazard, vulnerability, and exposure. If any of these three elements in risk increases or decreases, then the risk increases or decreases respectively." [95]	Crichton (1999)	Natural Sciences/ Insurance Industry
Risk, acceptable	<p>"The level of loss a society or community considers acceptable given existing social, economic, political, cultural, technical and environmental conditions.</p> <p>In engineering terms, acceptable risk is also used to assess structural and non-structural measures undertaken to reduce possible damage at a level which does not harm people and property, according to codes or 'accepted practice' based, among other issues, on a known probability of hazard." [64]</p>	UN/ISDR (2004)	United Nations
Risk, acceptable	<p>"The acceptable probability of losing one's life from an action or an event based on equation:</p> $P_{Epi}(x_d) \leq P_{Acc} = \frac{\beta_i \cdot 10^{-4} / year}{v_{ij}} ."$ [82]	Vrijling et al. (1995) p.218	Engineering
Risk, acceptable	"The probability of occurrences of physical, social, or economic consequences of an earthquake that is considered by authorities to be sufficiently low in comparison with the risks from other natural or technological hazards that these occurrences are accepted as realistic reference points for determining design requirements for structures, or for taking social, political, legal, and economic actions in the community to protect people and property." [77]	Journ. of Prehospital and Disaster Medicine (2004)	Science (multidisciplinary)
Risk Assessment	"Risk assessment has 2 parts: 'Objective' risk assessment of experts and 'Subjective' risk assessment of lay people, called risk perception. Experts base their risk assessment on objective and quantifiable data (probabilities, severity of consequences). Lay people base their risk perception on subjective characteristics: voluntarism, potential consequences on future generations, catastrophicity, dread, number of people exposed, known by science and/or people exposed. In addition, the subjective risk assessment depends on the risk target (children, women, personal, family, world, etc.)." [75]	Chauvin & Hermand (2002) p. 2	Psychology
Risk Assessment	"Risk assessment of natural disasters is defined as the assessment on both the probability of natural disaster occurrence and the degree of danger caused by natural disasters." [45]	Hori et al. (2002)	Geosciences
Risk management	"Risk management is a methodology for giving rational considerations to all factors affecting the safety or the operation of large structures or systems of structures. It identifies, evaluates, and executes, in conformity with other social sectors, all aspects of the management of the system, from identification of loads to the planning of emergency scenarios for the case of operational failure, and of relief and rehabilitation for the case of structural failure. [E. Plate: Risk management for hydraulic systems." [78]	Plate (2002) p. 211	Engineering
Risk management	"The culture, processes and structures that are directed towards the effective management of potential opportunities	Britton (2002)	Science

	and adverse effects (AS/NZS 4360:1999:4)". The Standard. from:[2]		(multidisciplinary)
Risk management process	<i>The Standard</i> defines the process of risk management as 'the systematic application of management policies, procedures and practices to the tasks of establishing the context, identifying, analysing, evaluating, treating, monitoring and communicating risk' (AS/NZS 4360:1999:4). The Standard . From [2]	Britton (2002)	Science (multidisciplinary)
Risk, seismic	"Seismic risk consists of the components seismic hazard, seismic vulnerability, and value of elements at risk (both, in human and economic terms)." [57], [71]	Wahlström et al. (2004) and Sinha & Goyal (2004)	Science (multidisciplinary)
Sustainability	"Sustainability is the ability of a locality to tolerate – and overcome – damage, diminished productivity, and reduced quality of life from an extreme event without significant outside assistance." [99]	Mileti (1999)	Geosciences
Sustainability	"In general, there is a consensus that sustainability should encompass social equity, economic growth and environmental protection. Some of the most widely quoted definitions include: <ul style="list-style-type: none"> <li>• "Meeting the needs of the present without compromising the ability of future generations to meet their own needs" (UNCED, 1987)</li> <li>• "Improving the quality of human life while living within the carrying capacity of supporting ecosystems" (IUCN/UNEP/WWF, 1991)</li> <li>• "To equitably meet developmental and environmental needs of present and future generations" (UNCED, 1992)" [23]</li> </ul>	Wong (2001)	United Nations
Sustainable development	"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organisation on the environment's ability to meet present and future needs." [66]	UNDP (2004)	United Nations
Sustainable development	"Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of "needs", in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and the future needs. (Brundtland Commission, 1987). Sustainable development is based on socio-cultural development, political stability and decorum, economic growth and ecosystem protection, which all relate to disaster risk reduction." [64]	UN/ISDR (2004)	United Nations
Vulnerability	"Vulnerability is defined as the extent to which a natural or social system is susceptible to sustaining damage from climate change. Vulnerability is a function of the sensitivity of a system to changes in climate (the degree to which a system will respond to a given change in climate, including beneficial and harmful effects), adaptive capacity (the degree to which adjustments in practices, processes, or structures can moderate or offset the potential for damage or take advantage of opportunities created by a given change in climate), and the degree of exposure of the system to climatic hazards." [47]	IPCC (2001) <i>p. 89</i>	United Nations
Vulnerability	"The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards. For positive factors, which increase the ability of people to cope with hazards, see definition of capacity." [64]	UN/ISDR (2004)	United Nations
Vulnerability	"Vulnerability expresses the severity of failure in terms of its consequences. The concern is not how long the failure lasts but how costly it is." [38]	Correia et al. (1987)	Engineering
Vulnerability	"Represents the interface between exposure to the physical threats to human well-being and the capacity of people and communities to cope with those threats." [68]	UNEP (2002)	United Nations
Vulnerability	"Vulnerability should be recognized as a key indicator of the seriousness of environmental problems such as global warning." [100]	Adger et al. 2001	Science (multidisciplinary)
Vulnerability	"Vulnerability defines the inherent weakness in certain aspects of the urban environment with are susceptible to harm	Rashed & Weeks	Science



	due to social, biophysical, or design characteristics." [6]	(2002)	(multidisciplinary)
Vulnerability	"Vulnerability is usually defined as the capacity of a system to be wounded from a stress or perturbation. It is a function of the probability of occurrence of the perturbation and its magnitude, as well as of the ability of the system to absorb and recover from such perturbation." [60]	Suarez (2002)	Science (multidisciplinary)
Vulnerability	"Vulnerability (V) = Hazard - Coping with : Hazard = H (Probability of the hazard or process; shock value; predictability; prevalence; intensity/strength); and Coping = C (Perception of risk and potential of an activity; possibilities for trade; private trade, open trade)." [9]	Feldbrügge & von Braun (2002) <i>p. 11</i>	Science (multidisciplinary)
Vulnerability	"Determinants of disaster vulnerability: · demographic factors: population growth, urbanization, settlements near coastal areas, etc., · the state of economic development: poverty, modernization processes, · environmental changes: climate changes, degradation and depletion of resources (straightening the courses of rivers, deforestation, etc.) · political factors, · an increase in tangible assets, which leads to an increase in damages, · effects of disaster protection structures and research, and · the interactions of the causes of disasters." [9]	Feldbrügge & von Braun (2002) <i>p. 14</i>	Science (multidisciplinary)
Vulnerability	"Vulnerability concept consists of two opposing forces: On one hand, the processes that cause vulnerability that can be observed; on the other hand, the physical exposure to hazards (earthquakes, storms, floods, etc.). Vulnerability develops then from underlying reasons in the economic, demographic and political spheres into insecure conditions (fragile physical environment, instable local economy, vulnerable groups, lack of state or private precautions) through the so-called dynamic processes (e.g., lack of local institutions, under-developed markets, population growth, and urbanization)." [24]	Blaikie et al. (1994) <i>pp. 21-26</i>	Social Sciences
Vulnerability	"The potential loss in value of an element at risk from the occurrence and consequences of natural and technological hazards. The factors that influence vulnerability include: demographics, the age and resilience of the built environment, technology, social differentiation and diversity, regional and global economies, and political arrangements. Vulnerability is a result of flaws in planning, siting, design, and construction. Vulnerability is the degree of loss to a given element at risk, or set of such elements, resulting from the occurrence of a natural phenomenon of a given magnitude and expressed on a scale from 0 (=no damage) to 1 (=total loss). -UNDRO." [77]	Journ. of Prehospital and Disaster Medicine (2004)	Science (multidisciplinary)
Vulnerability (Urban)	"Urban vulnerability to natural hazards such as earthquakes is a function of human behaviour. It describes the degree to which socioeconomic systems and physical assets in urban areas are either susceptible or resilient to the impact of natural hazards. Vulnerability is independent from any particular magnitude from a specific natural event but dependent on the context in which it occurs. The characteristic of the urban community that can be assessed through a combination of ecological factors associated with the physical conditions of the population in that place. The physical and social conditions are inextricably bound together in many disaster situations that we can use the former as indicative of the latter. V. is continuously modified by human actions and therefore it varies over space and time. V cannot be assessed in absolute terms; the performance of the urban place should be assessed with reference to specific spatial and temporal scales [6] The adaptive and coping capacities that determine the extent to which a society can tolerate damage from extreme events without significant outside assistance." [99]	Mileti (1999)	Science (multidisciplinary)
Vulnerability	"Vulnerability (in contrast to poverty which is a measure of current status) should involve a predictive quality: it is supposedly a way of conceptualizing what may happen to an identifiable population under conditions of particular risk and hazards. Is the complex set of characteristics that include a person's - initial well-being (health, morale, etc.)	Cannon et al. (2004)	Social Sciences

	- self-protection (asset pattern, income, qualifications, etc.) - social protection (hazard preparedness by society, building codes, shelters, etc.) - social and political networks and institutions (social capital, institutional environment, etc.)" [18].		
Vulnerability	"The vulnerability increases with the number of people affected by the impact of a natural hazard, given by the formula: $v_{ij} = 10^{-23} \cdot n_j^2$ , for $n \geq 10$ casualties." [82]	Vrijling et al. (1995) p. 218	Engineering
Vulnerability assessment	"Vulnerability assessment measures the seriousness of potential threats on the basis of known hazards and the level of vulnerability of societies and individuals. It should identify the location of vulnerable populations, the threats to their well being and the extent of their vulnerability." [68]	UNEP (2002)	United Nations
Vulnerability	"A human condition or process resulting from physical, social, economic and environmental factors, which determine the likelihood and scale of damage from the impact of a given hazard." [66]	UNDP (2004)	United Nations
Vulnerability	"The degree of loss to a given element at risk (or set of elements) resulting from a given hazard at a given severity level" In contrast to the concept of risk, here the probability of the occurrence of a hazard is not considered." (UNDP/UNDHA, 1994, pp. 38-39; see also UNDHA, 1992).  "Vulnerability has process character and is not static." [9]	Feldbrügge & von Braun (2002)	United Nations
Vulnerability	"Vulnerability is expressed as the degree of expected damage (i.e., the cost of repair divided by the cost of replacement) given on a scale of 0 to 1, as a function of hazard intensity (or magnitude, depending on the convention used)." [67]	UNDRO (1991) p. 79	
Vulnerability	"The degree of loss to a given element at risk or set of such elements resulting from the occurrence of a natural phenomenon of a given magnitude and expressed on a scale from 0 (no damage) to 1 (total loss) or in percent of the new replacement value in the case of damage to property." [74] and [21]	Tiedemann (1992) And Buckle et al. (2000)	
Vulnerability	"Le fait d'être sensible aux blessures, aux attaques ou d'éprouver des difficultés pour recouvrir une santé mise en péril. Tout dépend des éléments vulnérables que l'on place au centre du système : 1.) l'homme comme vulnérable aux aléas naturels de notre planète, suivant ses organisations, comportements et réactions individuelles. 2.) les espaces, à l'origine naturels, plus ou moins fragiles, ont été aménagés, souvent sur-aménagés, et sont ainsi devenus vulnérables à l'abondance d'activités humaines → vulnérabilité de L'environnement. 3.) La nature elle-même. 4 vulnérabilités: homme, biens, activités, environnement." [12]	Reveau (2004)	Science (multidisciplinary)
Vulnerability	"The insecurity of the well-being of individuals, households or communities in the face of a changing environment". Moser & Holland (1989) quoted in [13].	Alwang et al. (2001)	Social Sciences
Vulnerability	"Is the characteristic of a person or a group in terms of their capacity to anticipate, cope with, resist, and recover from the impact of a natural disaster" (Blakie et al. 1994 p.9 quoted in [13]). "The Extent of a disaster cannot be measured without knowledge of the resilience of the affected groups; this resilience plays out over time." [13]	Alwang et al. (2001)	Disaster management
Vulnerability	"Is a broad measure of the susceptibility to suffer loss or damage. The higher the vulnerability, the more exposure there is to loss and damage." [27]	Department of Human Services (2000)	Social Sciences
Vulnerability	"The likelihood that some socially defined group in society will suffer disproportionate death, injury, loss or disruption of livelihood in an extreme event, or face greater than normal difficulties in recovering from a disaster." [25]	Handmer & Wisner (1998)	Science (multidisciplinary)
Vulnerability	"Summarizing livelihood and environmental literature: vulnerability is the exposure of individuals or groups to livelihood stress as a result of environmental change." [13]	Alwang et al. (2001)	Science (multidisciplinary)
Vulnerability	"Vulnerability is provisionally defined as the degree to which a system is sensitive to and unable to cope with adverse impacts of global change stimuli. Vulnerability is therefore a function of a system's exposure to global change stimuli and its adaptive capacity, that is, its ability to cope with these stimuli." [101]	Klein (2003)	Science (multidisciplinary)
Vulnerability	"The vulnerability of a given entity (system, sector, region, etc.) with respect to Global Change may tentatively be defined as the expected damage as resulting from the expected environmental perturbations in view of the expected	Corell et al. (2001)	Natural Sciences

	transformation and adaptation processes." [94]		
Vulnerability	"Vulnerability ... is not the same as poverty. It means not lack or want, but defencelessness, insecurity, and exposure to risk, shocks and stress. ... Vulnerability here refers to exposure to contingencies and stress, and difficulty in coping with them." [96]	Chambers (1989)	Social Sciences
Vulnerability	"The characteristics of a person or group in terms of their capacity to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard." [98]	IFFRC (1999)	Disaster Management