



Disaster Myths

Myth 1: *Disasters are truly exceptional events.*

Reality: They are a normal part of daily life and in very many cases are repetitive events.

Myth 2: *Natural disasters are an inevitable result of Mother Nature's fury.*

Reality: The triggering phenomena are natural, and virtually nothing can be done to stop earthquakes, floods or tropical storms, for example. However, the *disaster* is almost always the result of people and communities putting themselves at risk—and there is nothing very natural or inevitable about that. We take risks (for example, by living in seismic zones or floodable areas), either because we see distinct advantages in doing so and we don't think the risks outweigh them, or because we don't perceive any alternatives (perhaps we feel we can't afford to live in a safer place).

Myth 3: *Disasters cause a great deal of chaos and cannot possibly be managed systematically.*

Reality: There are excellent theoretical models of how disasters function and how to manage them. After more than 75 years of research in the field the general elements of disaster are extremely well known, and they tend to repeat themselves from one disaster to the next.

Myth 4: *Disasters kill people without respect for social class or economic status.*

Reality: The poor and marginalised are much more at risk of death than are rich people or the middle classes.

Myth 5: *Earthquakes are commonly responsible for very high death tolls.*

Reality: Collapsing buildings are responsible for the majority of deaths in seismic disasters. Whereas it is not possible to stop earthquakes, it *is* possible to construct anti-seismic buildings and to organize human activities in such a way as to minimize the risk of death. In addition, the majority of earthquakes do not cause high death tolls.

Myth 6: *Significant numbers of people survive for many days when trapped under the rubble of collapsed buildings.*

Reality: The vast majority of people brought out alive from the rubble are saved within 24, or perhaps even 12, hours of the impact.

Myth 7: *When disaster strikes panic is a common reaction.*

Reality: Most people behave rationally in disaster. While panic is not to be ruled out entirely, it is of such limited importance that some leading disaster sociologists regard it as insignificant or unlikely.

Myth 8: *People will flee in large numbers from a disaster area.*

Reality: Usually there is a "convergence reaction" and the area fills up with people. Few of the survivors will leave and even obligatory evacuations will be short-lived.

Myth 9: *After disaster has struck survivors tend to be dazed and apathetic.*

Reality: Survivors rapidly get to work on the clear-up. Activism is much more common than fatalism (this is the so-called "therapeutic community"). In the worst possible cases only 15-30 per cent of victims show passive and dazed reactions.

Myth 10: *After disaster people will not make rational decisions and will therefore inevitably tend to do the wrong thing unless authority guides them.*

Reality: People make decisions on the basis of the information that they are able to obtain and their ability to interpret it. Within this compass, most decision-making can be judged rational.

Myth 11: *Disasters usually give rise to widespread, spontaneous manifestations of antisocial behaviour.*

Reality: Generally, they are characterized by great social solidarity, generosity and self-sacrifice.

Myth 12: *Looting is a common and serious problem after disasters.*

Reality: The phenomenon of looting is rare and limited in scope. It mainly occurs when there are strong preconditions (i.e. a disaster is hardly necessary to start it off), as when a community is already deeply divided.

Myth 13: *In disaster, people resort to violence to protect their own interests.*

Reality: The 'therapeutic community' is common: people have a greater tendency to help each other than in normal times.

Myth 14: *Martial law must be imposed after disaster in order to stop society from breaking down altogether.*

Reality: The imposition of martial law after disaster is extremely rare and implies that normal mechanisms of government were never effective in any way.

Myth 15: *A strong military presence is required in areas affected by disaster in order to discourage law-breakers.*

Reality: Emergency response should have made a transition from a military activity to a fully civilian one. As increases in lawlessness are seldom a serious problem as a result of disaster, the police are usually able to deal with public order problems without the need to call for military assistance.

Myth 16: *The mass media create an accurate picture of the disasters on which they report.*

Reality: There is a pervasive tendency for the media to exaggerate and distort disaster-related information. Very rarely are journalists ever expert on disasters and crises. Their lack of expertise is often easily identifiable in the quality of their reporting. They must also provide the sort of information which viewers, listeners or readers want to have, which may add further bias to the content of their reports.

Myth 17: *Unburied dead bodies constitute a health hazard.*

Reality: Not even advanced decomposition causes a significant health hazard. Hasty burial demoralizes survivors and upsets arrangements for death certification, funeral rites, and, where needed, autopsy.

Myth 18: *Disease epidemics are an almost inevitable result of the disruption and poor health caused by major disasters.*

Reality: Generally, the level of epidemiological surveillance and health care in the disaster area is sufficient to stop any possible disease epidemic from occurring. However, the rate of diagnosis of diseases may increase as a result of improved health care.

Myth 19: *Great quantities and assortments of medicines should be sent to disaster areas.*

Reality: The only medicines that are needed are those used to treat specific pathologies, have not reached their sell-by date, can be properly conserved in the disaster area, and can be properly identified in terms of their pharmacological constituents. Any other medicines are, not only useless, but potentially dangerous.

Myth 20: *Field hospitals are particularly useful for treating people injured by sudden impact disasters.*

Reality: Field hospitals are usually set up too late to treat the injured and end up providing general medicine and continuity of care. As the transport and operation of field hospitals tends to be expensive and logistically challenging, in some cases it may be more efficient to attempt to restore or augment existing hospitals in the area, even if they are significantly damaged.

Myth 21: *In the aftermath of disaster mass vaccination is an excellent way of stopping the spread of diseases.*

Reality: Whereas the carefully targeted vaccination of specific groups (e.g. children, doctors and nurses) may be effective, indiscriminate mass vaccination is wasteful, as records cannot be kept properly, follow-up vaccination is difficult to administer and people move around too much for the initiative to work properly.

Myth 22: *Sanitary cordons should be set up around disaster areas to stop the spread of disease.*

Reality: Sanitary cordons rarely work. The movement of people and goods are too complex and chaotic to be able to control the entrance to and exit from the area in such a way as to disinfect people, which in any case may be a misguided approach. In most cases sanitary cordons do nothing for health but significantly inhibit relief efforts. The better alternative is to set up an epidemiological observatory and practise specific measures exactly where anomalous or dangerous conditions are identified.

Myth 23: *Dead bodies, survivors, streets, rubble and other things should be sprayed with disinfectant to stop the spread of disease.*

Reality: This common and popular measure wastes large quantities of disinfectant and does nothing whatsoever for public health.

Myth 24: *There is usually a shortage of resources when disaster occurs and this prevents them from being managed effectively.*

Reality: The shortage, if it occurs, is almost always very temporary. There is more of a problem in deploying resources well and using them efficiently than in acquiring them. Often there is also a problem of coping with a superabundance of certain types of resource.

Myth 25: *In a disaster aftermath the prices of essential goods always rise steeply.*

Reality: Profiteering does occur in disaster aftermaths, but it is far from being the norm. Black market surpluses of goods may drive prices down.

Myth 26: *Any kind of aid and relief is useful after disaster providing it is supplied quickly enough.*

Reality: Hasty and ill-considered relief initiatives tend to create chaos. Only certain types of technical assistance, goods and services will be required. Not all useful resources that existed in the area before the disaster will be destroyed. Donation of unusable materials or manpower consumes resources of organization and accommodation that could more profitably be used to reduce the toll of the disaster.

Myth 27: *In order to manage a disaster well it is necessary to accept all forms of aid that are offered.*

Reality: It is much better to limit acceptance of donations to goods and services that are actually needed in the disaster area.

Myth 28: *One should donate used clothes to the survivors of disasters.*

Reality: This often leads to accumulations of huge quantities of useless garments that victims cannot or will not wear.

Myth 29: *Companies, corporations, associations and governments are always very generous when invited to send aid and relief to disaster areas.*

Reality: They may be, but in the past disaster areas have been used as dumping grounds for outdated medicines, obsolete equipment, and unsaleable goods, all under the cloak of apparent generosity.

Myth 30: *Technology will save the world from disaster.*

Reality: The problem of disasters is largely a social one. We already have considerable technological resources, but they are poorly distributed and often ineffectively used. In addition, technology is a potential source of vulnerability as well as a means of reducing it.

Myth 31: *Tsunamis are tidal waves.*

Reality: Tsunamis are seismic, volcanic or landslide-induced sea waves with a completely different form and mode of propagation to bores or other waves caused by tides. Their coastal impact may be slightly influenced by tides, but not their causes.

Myth 32: *Earthquake magnitude is measured on the Richter scale.*

Reality: 'Local magnitude' M_L , Charles F. Richter's scale, is inaccurate at high values and so has been replaced by body wave magnitude, moment magnitude and other more robust scales.

Myth 33: *There is such a thing as "earthquake weather".*

Reality: The popular credence that earthquakes occur when there is close, muggy weather has no basis of fact. Numerous scientific studies have sought to identify atmospheric conditions as earthquake precursors, but the only substantial success has been achieved regarding the release of halogens into the atmosphere, which causes light to be filtered and refracted.

Myth 34: *The behaviour of animals can predict earthquakes.*

Reality: Unusual behaviour by all sorts of animals, from frogs and snakes to pigs and horses, does occur before earthquakes, but despite numerous scientific studies, it is definitely not a reliable way of knowing whether an earthquake is about to happen. Perhaps we don't understand animal psychology well enough.

Myth 35: *We are well organised to face a pandemic or CBRN attack.*

Reality: In most countries, including the richer and larger ones, preparedness is at best patchy and at worst seriously lacking.

Myth 36: *In a biological terrorism attack or pandemic prophylaxis will be effective and efficient.*

Reality: Stockpiles of antidotes and vaccines are insufficient, and so are isolation wards, field response units, decontamination units, and training for responders and physicians. It may also be difficult to achieve timely identification of the pathogen or toxin involved.

Myth 37: *CBRN decontamination is a solved problem.*

Reality: Many questions remain about the protocols and procedures for decontamination, including reagents and cleansers to be used, number of people who could be decontaminated per unit time, and whether to remove all clothes before being decontaminated.

Myth 38: *The main effects of a CBRN attack or pandemic would necessarily be medical.*

Reality: Disruption of daily life could potentially have even greater consequences (in logistical, social, psychological and monetary terms) than the medical effects of the crisis.

Myth 39: *In a CBRN attack or pandemic it will be easy to avoid contamination of hospitals and other medical centres.*

Reality: For certain virulent pathogens or toxins, cross-contamination would be extremely hard to avoid without absolute order and very elaborate measures which are not likely to be forthcoming.

Myth 40: *It will be easy to identify the pathogen, chemical agent or isotope involved in a CBRN attack.*

Reality: There are so many potential pathogens, agents and isotopes that high-level laboratory analysis may be needed, which would cause problems of transportation of samples and rapidity of analyses.

Myth 41: *Anthrax is a white powder.*

Reality: *Bacillus anthracis* is a colourless, almost invisible substance. Weaponised spores are likely to be even less easy to see than naturally grown ones.

Myth 42: *Panic and irrational behaviour are inevitable consequences of a CBRN terrorism attack.*

Reality: In disasters of all kinds most people make an effort to behave rationally and make rational decisions. This is antithetical to panic. However, if people do not have adequate information, their decision making may defy rational analysis.

Myth 43: *Trends in terrorism are highly irregular but show a very substantial increase in recent times.*

Reality: Although the locus of terrorist activity tends to shift from one place to another, the sum total of attacks and their effects, has remained stable for several decades and shows only a modest increase, if any.

Myth 44: *Emergency responders will not report to work in a disaster, they will protect their families instead.*

Reality: It is not common for there to be mass absenteeism among key workers during the aftermath of disasters. On the contrary, people tend to have an enhanced sense of duty.

Myth 45: *Emergency responders will not know what to do during a disaster or crisis.*

Reality: It is to be hoped that training and experience have turned emergency responders and disaster managers into highly capable professionals.

Myth 46: *Disasters always happen to someone else.*

Reality: The 'syndrome of personal invulnerability' tends to mislead people into believing that they are in some way immune from disasters. It is not so.

Myth 47: *Business continuity management only applies to the private sector.*

Reality: The public sector (municipal, regional and national governments and associated agencies) must be able to weather disaster and continue its activities just as any private company should. There is thus no reason why BCM should not apply to public bodies.

Myth 48: *In disasters there are heroes and villains.*

Reality: There may indeed be villains, although the 'therapeutic community' that prevails in the aftermath tends to mitigate their effect, but most people who act selflessly and in favour of others are not strictly heroes but are just doing their jobs as best they can. When people try to be heroes the results tend to destroy the teamwork on which disaster response depends.

Myth 49: *Disaster is always a negative experience.*

Reality: While it is true that the majority of people affected by disaster suffer, in some cases terribly, there are those who profit by disaster (either legitimately or illicitly), for example by selling prefabricated dwellings. The fact that disaster happens can be used in a positive way to increase resilience against future impacts. In the best instances, reconstruction can produce a better, safer, more attractive environment than existed before the disaster. Finally, people may find the enhanced sense of community and strengthened community roles that happen in disaster aftermaths some of the best experiences of their lives.

Myth 50: *Heavy rains can cause mudslides.*

Reality: It may be partially true that mud slides, but it mostly flows. In strict terms the mass movements in question are flow-slides, not quite the 'mudslides' beloved of the mass media.

Myth 51: *Blood supplies and blood products should be sent to foreign disasters.*

Reality: There are pathological and logistical reasons why it is better to acquire blood and blood products in the country in question.

Myth 52: *When disasters occur, able-bodied adults should volunteer their services.*

Reality: The age of spontaneous volunteerism is over. Unorganised volunteers are more trouble than they are worth. The answer is to have fully constituted organisations of trained and equipped volunteers, who are integrated into the civil protection system by law or according to well-defined rules which set out their duties and responsibilities.

Myth 53: *Aid always benefits the recipients, not the donors.*

Reality: There are many cases in which the beneficiaries include the donors. Goods and services imported into a country with foreign funding tend to benefit the manufacturers and suppliers. If the aid is ill-conceived, it may *only* benefit the foreign suppliers.

Myth 54: *Donations in kind are safer and better than cash grants.*

Reality: Although there is a risk that cash grants may end up in the pockets of corrupt administrators or local mafias, cash is generally more flexible than donations in kind. It can be used to buy goods and supplies locally and thus will stimulate local markets.

Myth 55: *Famine victims usually die of starvation.*

Reality: They most often succumb to famine-related diseases such as malnutrition, diarrhea, typhus, or cholera.

Myth 56: *Modern famines are the result of food shortages.*

Reality: They are almost invariably the result of denial of food, market imbalance or failure to distribute food.

Myth 57: *Knowledge alone leads to action.*

Reality: Producing the means to reduce disaster risk (a warning system, a hazard map, an advancement of anti-seismic building techniques, an updated building code, etc.) does not mean that it will necessarily be used. Lack of leadership, bad intentions, political paralysis, lack of funds and official indifference are some possible reasons why this is so.

Myth 58: *For every dollar [pound, euro, shekel] spent on disaster risk reduction, between four and 11 dollars are saved in damage and losses avoided.*

Reality: Cost-benefit ratios are largely a form of "urban myth". The statement relies on hypothetical assumptions that are almost entirely untested. It is quite probable that prudent investment in risk reduction is less expensive than are losses, but no one has the slightest idea how much cheaper.

Myth 59: *Cost-benefit data will convince decision makers to invest in disaster risk reduction.*

Reality: In reality, political incentives are far more powerful than economic ones.

Myth 60: *Disaster prevention is a good investment.*

Reality: It might be, but there is no guarantee that it will be. Most other viable forms of investment yield benefits that are more tangible, realised more quickly and more visible to those who invest or support investment decisions, including voters.

Myth 61: *In disasters, crises and emergencies, people with disabilities tend to be passive and unable to react.*

Reality: People with severe cognitive disabilities may be passive and unable to react, but there is a vast range of disabilities, and between one in seven and one in five members of the general population is affected by them. Many people with disabilities live relatively autonomous lives and in so doing are very resourceful. With the right kind of help they can react very effectively to disasters.

Myth 62: *Pandemic influenza is almost exclusively a medical problem.*

Reality: Although influenza is obviously a medical problem, many of the most serious issues associated with a pandemic would be socio-economic.

Myth 63: *Tsunamis never catch fire.*

Reality: Ruptured fuel tanks can spill petroleum onto the water and it can blaze away. This is a common effect of the landfall of major tsunamis on industrialised coasts.

Myth 64: *Volcanoes produce smoke.*

Reality: Smoke largely comes from burning organic materials. Volcanoes emit magma (lava), phreatic steam (from groundwater), particulates (e.g. silica) and gases (HF, HS, CO, CO₂, etc.). Smoke may come from burning buildings or forests struck by lava flows, but volcanoes do not produce smoke directly.

Myth 65: *Children and young people are too vulnerable to be exposed to the effects of disaster.*

Reality: While we would not want to cause psychological harm to children, they tend to be adaptable and usually want to participate in what is going on during the aftermath of a disaster.

Myth 66: *Stress from the disaster makes breastmilk 'dry up' in disasters.*

Reality: Although, due to stress, there may be a temporary dip in milk supply while breastfeeding, continued breastfeeding is possible with proper support. Women who experience difficulties in breastfeeding during evacuation or sheltering indicate that they need space and support. (i.e. a space designated for breastfeeding). [With thanks to Sarah DeYoung]

Myth 67: *Infant formula is helpful and life-saving after disasters.*

Reality: Mass untargeted donations of infant formula are associated with increases in diarrheal illness, malnutrition, and infant death. [With thanks to Sarah DeYoung]

See: Alexander, D.E. 2007. Misconception as a barrier to teaching about disasters. *Prehospital and Disaster Medicine* 22(2): 95-103. DOI: 10.1017/S1049023X00004441