



DISASTER STUDIES

Present By

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The United Nations
Office for Disaster
Risk Reduction
(2009) defines
disaster as:

“A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.”

The DM Act 2005 uses the following definition for disaster:

“Disaster” means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area.”





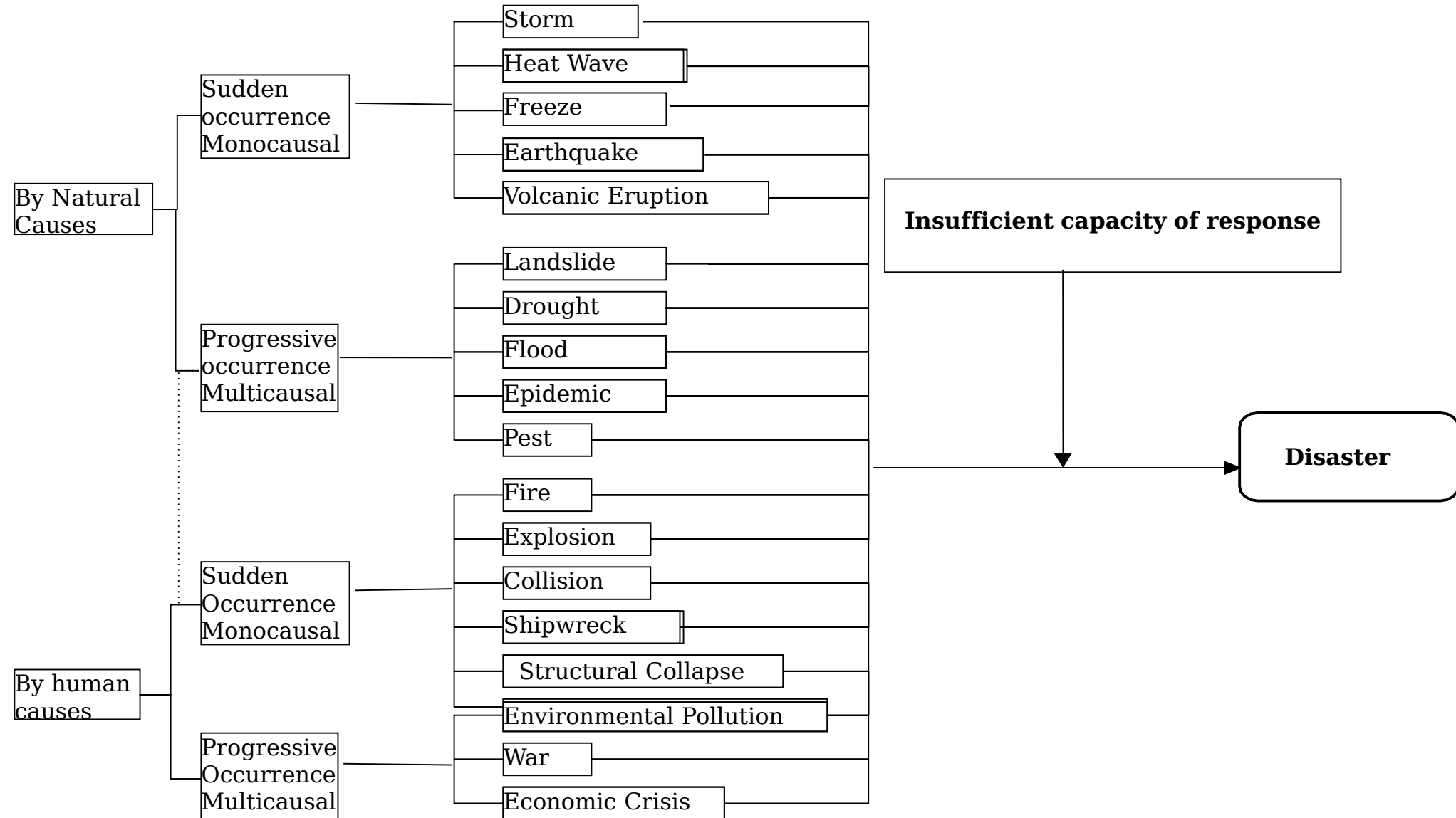
HAZARD

A dangerous condition or events that threaten or have the potential for causing injury to life or damage to property or the environment. They can be categorized in various ways but, based on the origin, hazards worldwide are basically grouped in two broad headings:

1. Natural Hazards (hazards with meteorological, geological or even biological origin)
2. Unnatural Hazards (hazards with human-caused or technological origin).

It is also important to know that natural phenomena are extreme climatological, hydrological, or geological, processes that do not pose any threat to persons or property. A massive earthquake in an unpopulated area, for example, is a natural phenomenon, not a hazard. It is when these natural phenomena interact with the man made environment or fragile areas which causes wide spread damage.

HAZARDS AND DISASTERS: CLASSIFICATION



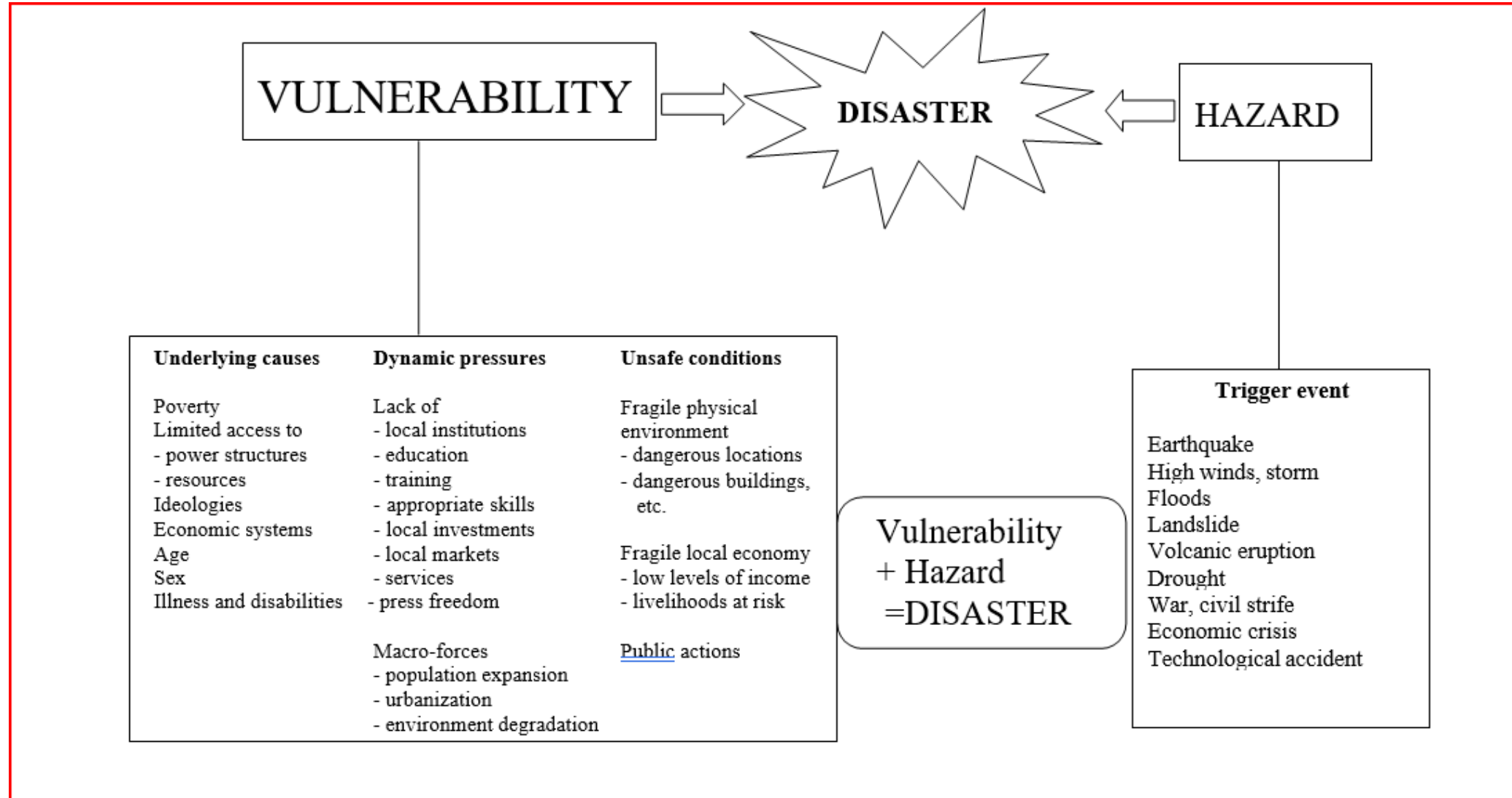
VULNERABILITY

❖ Vulnerability may be defined as “The extent to which a community, structure, services or geographic area is likely to be damaged or disrupted by the impact of particular hazard, on account of their nature, construction and proximity to hazardous terrains or a disaster prone area.”

Vulnerabilities can be categorized into:

1. Physical vulnerability
2. Socio-economic vulnerability





EMERGENCY

Emergency is a state in which normal procedures are suspended and extra-ordinary measures are taken in order to avert a disaster. An emergency can be defined in the context of the social, political and epidemiological circum.



RISK

Risk analysis is an integral part of the field of business and finance. In disaster management, applied scientists initially developed risk studies to project probable disaster loss and to determine which scientific and technical solutions were to be applied either to modify the hazard or modify physical vulnerability to the hazard. Risk is commonly used to mean the probability or likelihood of meeting danger or suffering harm and loss. Risk is sometimes taken as synonymous with hazard but risk has an additional implication of the chance of a particular hazard actually occurring. It is also the exposure of something of human value (life, property, and the environment) to a hazard and is often regarded as the combination of probability and loss.



DISASTER RISK REDUCTION:

Disaster Risk Reduction can take place in the following ways:

1. Preparedness: This protective process embraces measures which enable governments, communities and individuals to respond rapidly to disaster situations to cope with them effectively. Preparedness includes the formulation of viable emergency plans, the development of warning systems, the maintenance of inventories and the training of personnel. It may also embrace search and rescue measures as well as evacuation plans for areas that may be at risk from a recurring disaster. Preparedness therefore encompasses those measures taken before a disaster event which are aimed at minimising loss of life, disruption of critical services, and damage when the disaster occurs.

2. Mitigation: Mitigation embraces measures taken to reduce both the effect of the hazard and the vulnerable conditions to it in order to reduce the scale of a future disaster. Therefore mitigation activities can be focused on the hazard itself or the elements exposed to the threat. Examples of mitigation measures which are hazard specific include water management in drought prone areas, relocating people away from the hazard prone areas and by strengthening structures to reduce damage when a hazard occurs. In addition to these physical measures, mitigation should also aim at reducing the economic and social vulnerabilities of potential disasters.



CAPACITY

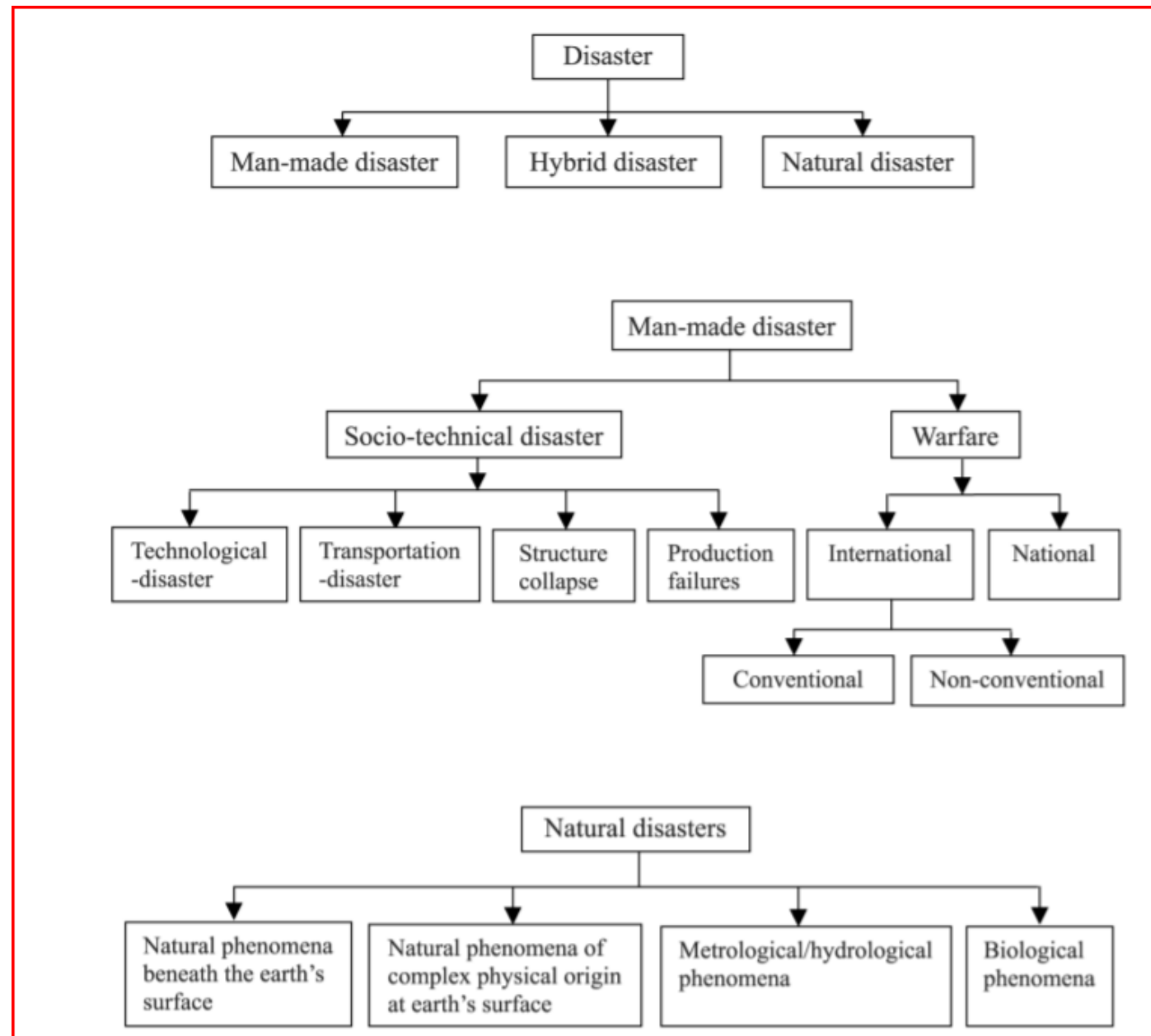
Capacity (as contrasted to vulnerability) has been included in disaster management initially as a guide for both international and local agencies who work with vulnerable communities to link disaster to development – even in emergency situations disaster survivors have capacities. They are not helpless victims but have ‘coping’ mechanisms on which to build on for emergency response and recovery. For many vulnerable groups, the viable track to reduce vulnerabilities has been by increase their social and organization capacities are resources means and strengths. These exist in households and communities and enable them to withstand, prepare for, event, mitigate, or quick recovery from a disaster. People’s capacity can also be categorized in the same categories as was done with vulnerabilities in the previous section.

Physical and Material Capacity

Social and Organizational Capacity

Attitudinal and Motivational Capacity





Box 1.1: List of various Disasters

- | | |
|---|--|
| i. Water and climate related disasters | a) Floods and drainage management
b) Cyclones
c) Tornadoes and hurricanes
d) Hailstorm
e) Cloud burst
f) Heat wave and cold wave
g) Snow avalanches
h) Droughts
i) Sea erosion
j) Thunder and lightening
k) Tsunami |
| ii. Geological related disasters | a) Landslides and mudflows
b) Earthquakes
c) Dam failures/ Dam bursts
d) Minor fires |
| iii. Chemical, industrial and nuclear related disasters | a) Chemical and industrial disasters
b) Nuclear disasters |
| iv. Accident related disasters | a) Forest fires
b) Urban fires
c) Mine flooding
d) Oil spills
e) Major building collapse
f) Serial bomb blasts
g) Festival related disasters
h) Electrical disasters and fires
i) Air, road and rail accidents
j) Boat capsizing
k) Village fire |
| v. Biological related disasters | a) Biological disasters and epidemics
b) Pest attacks
c) Cattle epidemics
d) Food poisoning |

POST-DISASTER SURVIVAL AND RECOVERY

- ❖ Income, savings, loans, insurance policies
- ❖ Land, livestock, tools
- ❖ Secure employment; work experience
- ❖ Health and nutrition; food, security
- ❖ Appropriate, secure housing
- ❖ Functional education; administrative skills
- ❖ Close family networks.
- ❖ Low rate of adult dependency in the household.
- ❖ Access to public and/or private transport.
- ❖ Time
- ❖ Social networks; community integration.
- ❖ Political power and influence
- ❖ Power in the household; access to, and control of, household resources.
- ❖ Access to emergency resources (information, shelters)

These resources essential to survival and recovery are unequally distributed in all societies, which means that in equally dangerous environments, people and social groups are impacted in different ways. The following categories are the hardest hit (Enarson, 1998a):

- Poor and low-income households.
- Single-parent households
- Socially isolated households
- Recently arrived residents, immigrants, foreigners
- Senior citizens, children and young people
- People with a disease or a mental or physical disability
- Undocumented residents; refugees; war veterans
- Indigenous populations and subordinate ethnic groups
- Institutionalized populations; homeless residents.

DISASTER TRENDS

Development and relief agencies have long recognized the important role played by data and information in mitigating the impacts of disasters on vulnerable populations. Systematic collection and analysis of these data provides invaluable information to governments and agencies in charge of relief and recovery activities. It also aids the integration of health components in development and poverty alleviation programs.

However, there is a lack of international consensus regarding best practices for collecting these data. Together with the complexity of collecting reliable information, there remains huge variability in definitions, methodologies, tools and sourcing.

Centre for Research on the Epidemiology of Disasters (CRED) has a long history of standardized data compilation, validation and analysis. It provides free and open access to its data through its website. One of CRED's core data products is the EM-DAT the International Disaster Database.

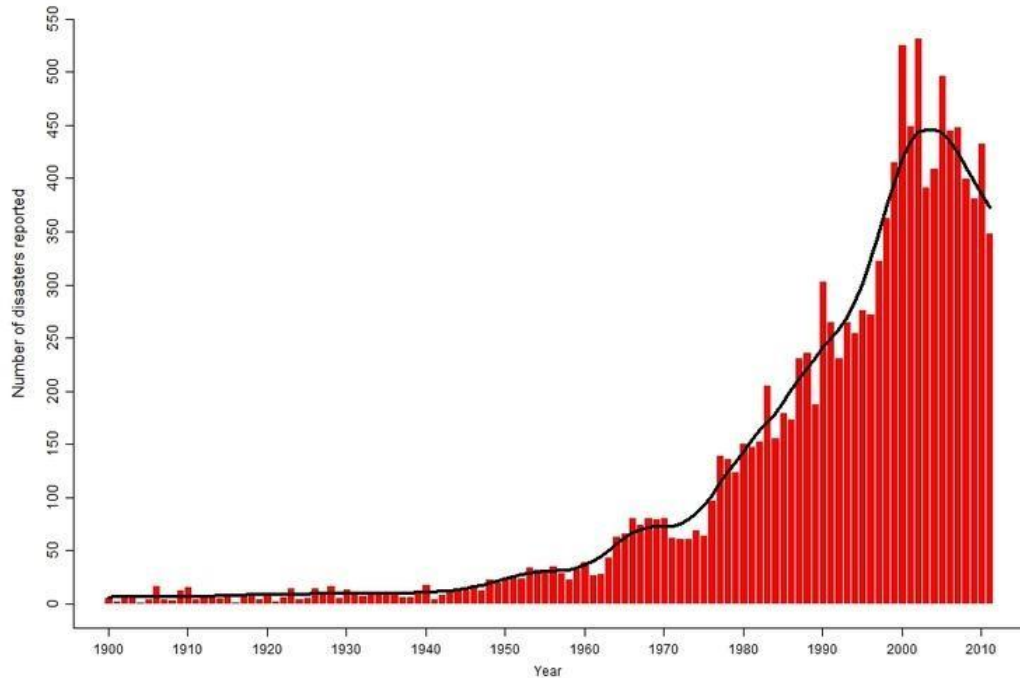
Emergency Events Database (EM-DAT) provides an objective basis for vulnerability assessment and rational decision-making in disaster situations. For example, it helps policymakers identify disaster types that are most common in a given country and have had significant historical impacts on specific human populations.

In addition to providing information on the human impact of disasters, such as the number of people killed, injured or affected, EM-DAT provides disaster-related economic damage estimates and disaster-specific international aid contributions.



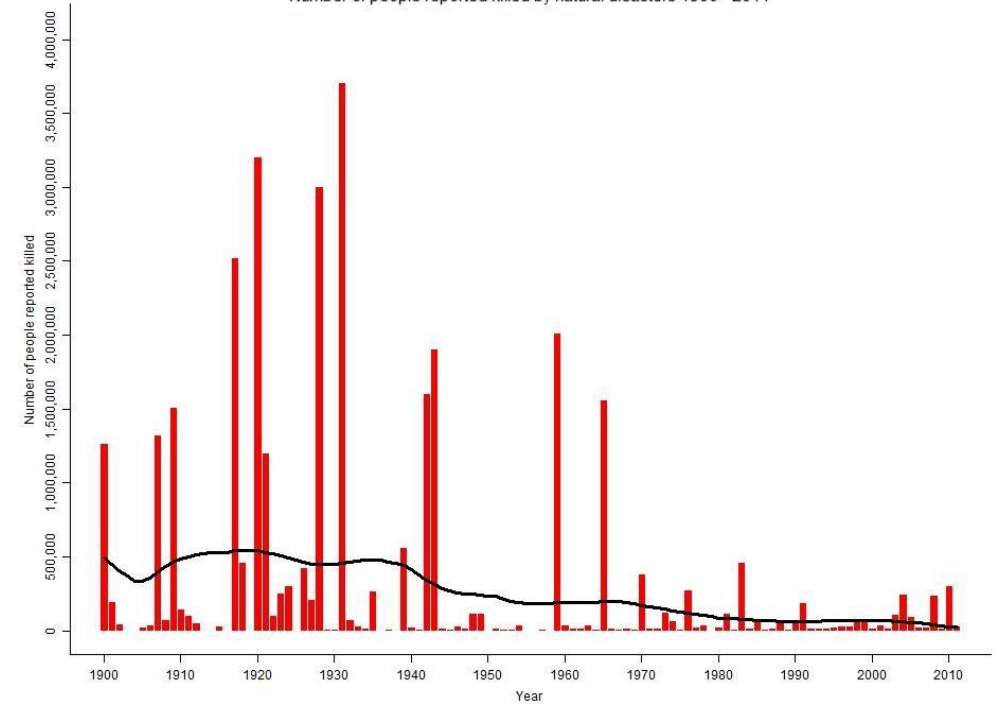
NATURAL DISASTERS REPORTED 1900-2011

Natural disasters reported 1900 - 2011



EM-DAT: The OFDA/CRED International Disaster Database - www.emdat.be - Université Catholique de Louvain, Brussels - Belgium

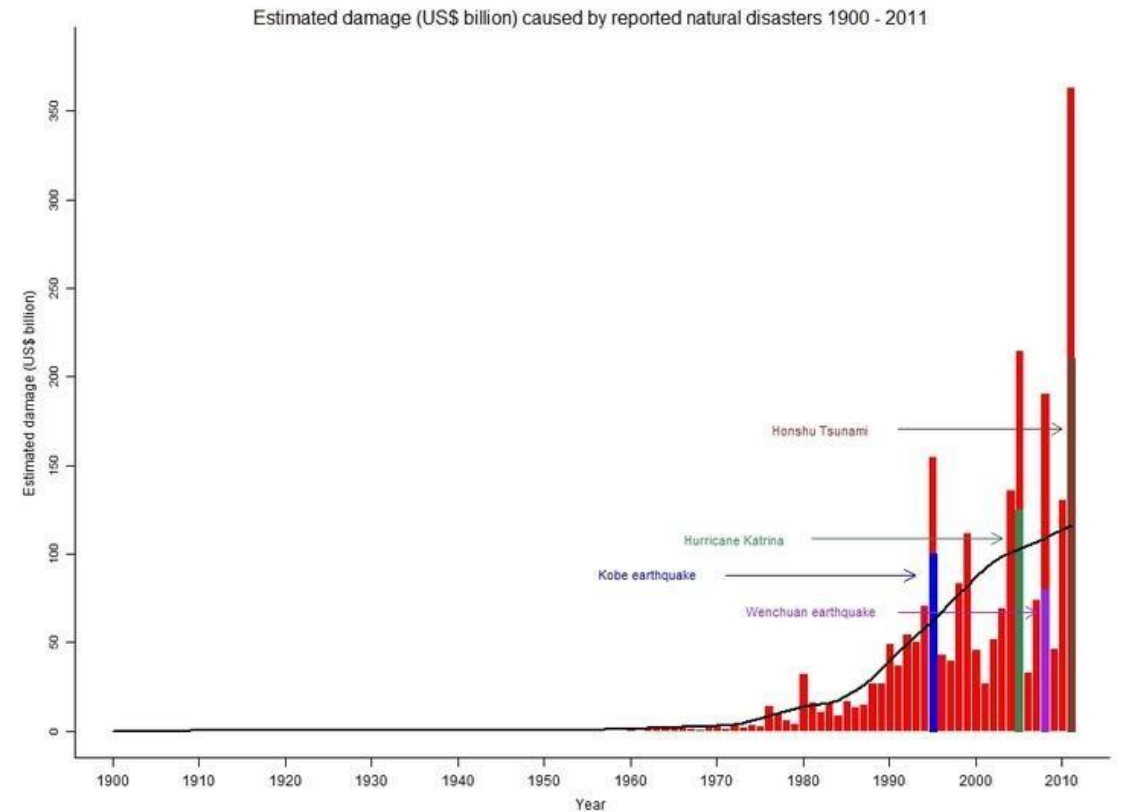
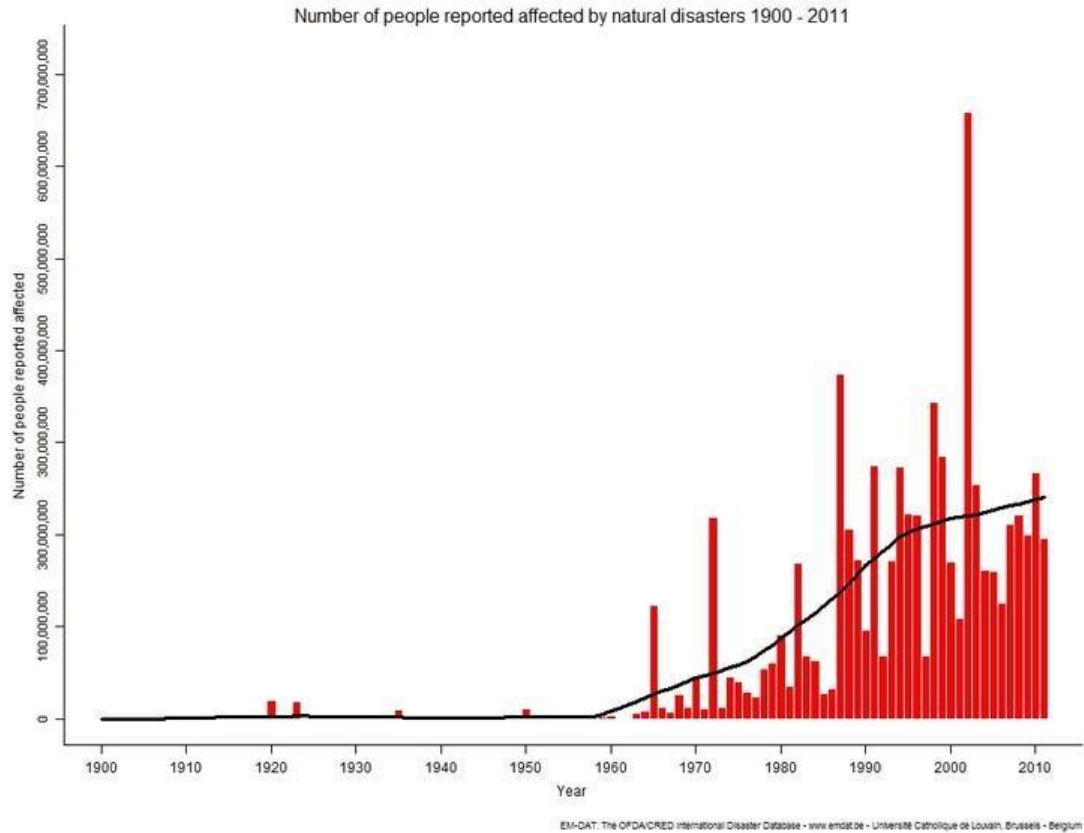
Number of people reported killed by natural disasters 1900 - 2011



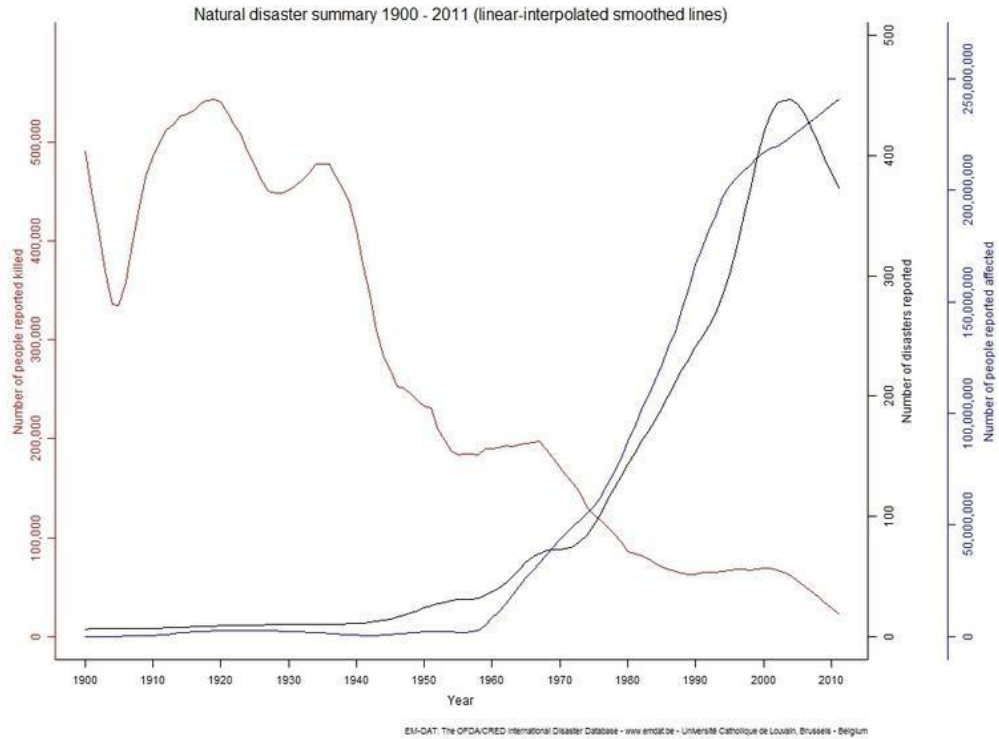
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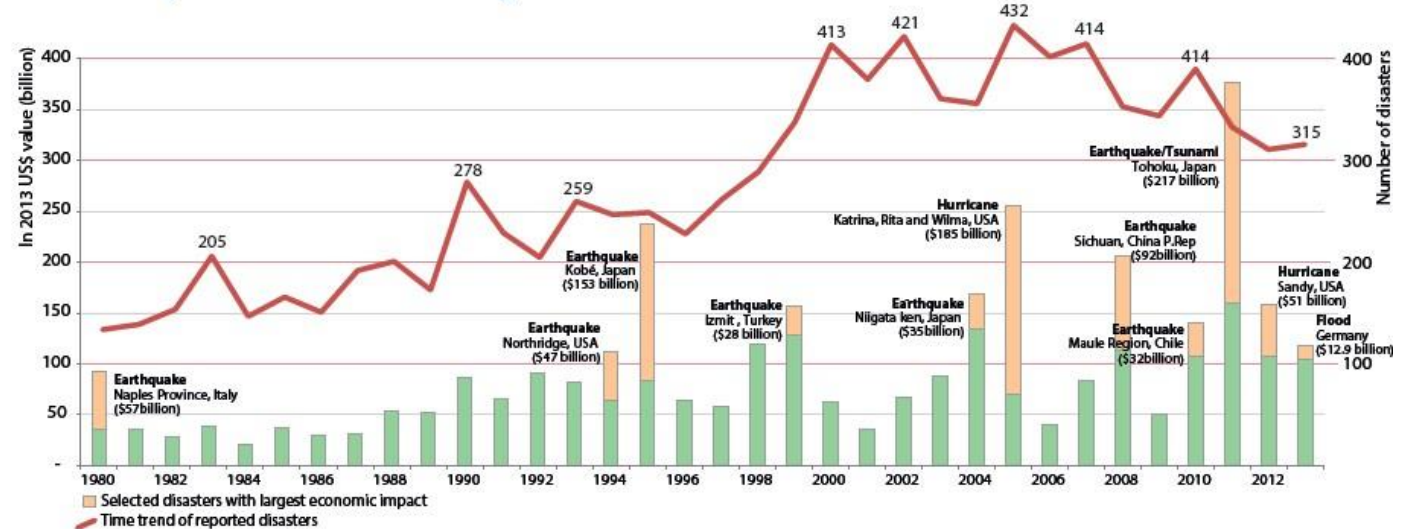
NUMBER OF PEOPLE REPORTED KILLED BY NATURAL DISASTERS 1900-2011



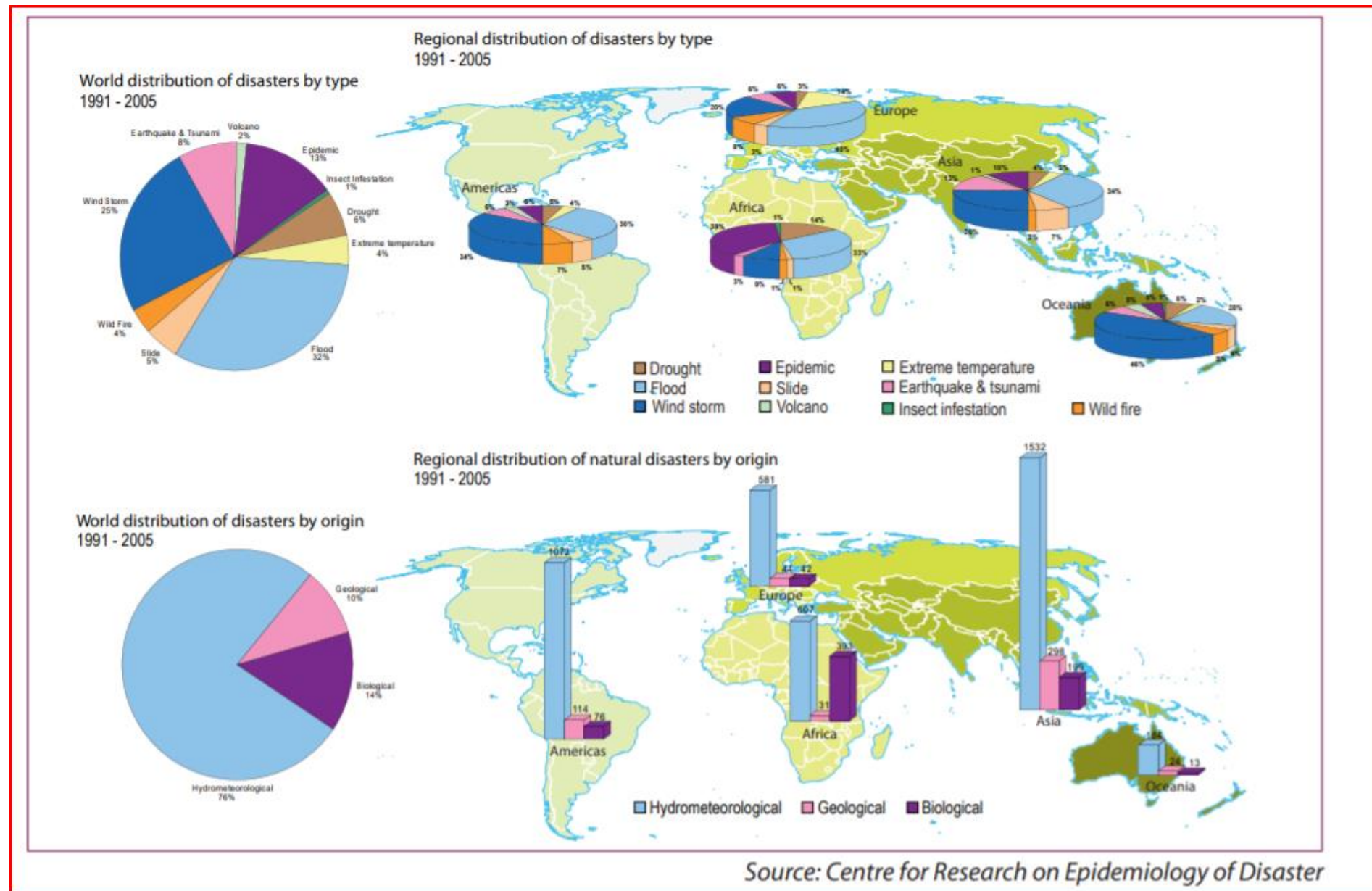
ESTIMATED DAMAGE (US\$) CAUSED BY REPORTED NATURAL DISASTERS 1900-2011



Annual reported economic damages and time trend from disasters: 1980-2013



REGIONAL DISTRIBUTIONS OF DISASTERS BY TYPE





THANK YOU !!!!