# Glossary

GAR13 uses an expanded set of terms and definitions building on those included in GAR09 and GAR11.

**Disaster risk** is considered to be a function of **hazard, exposure** and **vulnerability**. Disaster risk is normally expressed as the probability of loss of life, injury or destroyed or damaged capital stock in a given period of time. Generic definitions of these and other terms are available in the UNISDR Glossary.[i] The way these terms are used in GAR13 is explained below.

GAR11 uses the term **physical** (rather than **natural**) **hazard** to refer to hazardous phenomena such as floods, storms, droughts and earthquakes. Processes such as urbanization, environmental degradation and climate change shape and configure hazards; therefore, it is becoming increasingly difficult to disentangle their natural and human attributes. **Major hazard** is used to refer to global or regionally important hazards such as earthquakes, tsunamis, flooding in large river basins and tropical cyclones. **Localized hazard** is used to refer to smaller-scale hazards such as flash or surface water flooding, fires, storms and landslides, which tend to affect particular localities.  **Exposure** is used to refer to the location and number of people, factories, offices or other business assets in hazard-prone areas. **Vulnerability** is used to refer to the degree of susceptibility of these assets to suffer damage and loss, for example, due to inadequate design and construction, lack of maintenance, unsafe and precarious living conditions, lack of access to emergency services etc. **Resilience** is used to refer to the capacity of systems (ranging from national, local or household economies to businesses and their supply chains) to absorb or buffer losses, and recover.

**Extensive risk** is used to describe the risk of low-severity, high-frequency disasters, mainly but not exclusively associated with highly localized hazards. **Intensive risk** is used to describe the risk of high-severity, mid to low-frequency disasters, mainly associated with major hazards. **Emerging risk** is used to describe the risk of extremely low-probability disasters associated with new patterns of hazard and vulnerability. Geomagnetic storms, for example, have always occurred, but the associated risks are now magnified by the growing dependence of modern societies on vulnerable energy and telecommunications networks. **Underlying risk drivers** are development-related processes such as badly planned and managed urban and regional development, environmental degradation, poverty, climate change and weak governance, which shape risk patterns and trends.

In this report, data on **direct disaster losses** refer to damage to human lives, buildings, infrastructure and natural resources. Direct disaster losses to business refer to the damages to factories, offices, equipment and stocks. **Indirect disaster losses** are declines in business output or revenue incurred owing to business interruption, as a consequence of direct losses or owing to impacts on a business' supply chain. **Wider impacts** refer to, for example, loss of market share or damage to a business reputation as clients take their business to competitors, skilled workers move to other employers and relationships with suppliers are severed. **Macroeconomic effects** can be felt as a consequence of all three types of losses and impacts and can in turn negatively affect business performance through a constrained enabling business environment. **Shared risks or costs** refer to risks that are transferred in time or space to other sectors or to the wider economy. They can also be referred to as externalised social and environmental costs.

The risk assessment for GAR13 uses a **probabilistic** approach. **Probability** is defined as the likelihood of an event occurring compared to all the possible events that might occur. The **exceedance probability** is the likelihood of one event of a given magnitude occurring or being exceeded within a defined time span. **Frequency** is the expected number of times that a particular event occurs in a defined time span. **Return period** is the average frequency with which a particular event is expected to occur. It is usually expressed in years, such as 1 in X number of years. This does not mean that an event will occur once every X numbers of years, but is another way of expressing the exceedance probability: a 1 in 200 years event has a chance of 0.5 percent to occur or be exceeded every year.

**Annual average loss (AAL)** is the estimated average loss per year over a long time period considering the range of loss scenarios relating to different return periods. The **probable maximum loss (PML)** is the maximum loss that could be expected for a given return period, for example of 250 years.

**Capital stock** is made up of **produced capital, natural capital** and **intangible capital**.[ii]

**Produced capital** is the total value of machinery, equipment, structures (including infrastructure) and urban land.  GAR 13 analyses **urban produced capital**, defined as the produced capital in urban areas with more than 2,000 inhabitants. Exposed produced capital refers to the urban produced capital stock that is exposed to natural hazards. **Natural capital** is the total value of existing non-renewable resources (including oil, natural gas, coal and mineral resources) as well as cropland, pastureland, forests and protected areas. **Intangible capital** includes values such as human capital, institutional infrastructure and social capital.

**Gross fixed capital formation** is the total value of capital investment by the private and public sectors in a given year. In GAR13, relative disaster risk is estimated by comparing the **AAL** for earthquakes and tropical cyclones with urban produced capital and gross fixed capital formation. In the case of tsunamis, relative disaster risk is estimated using the proportion of urban produced capital exposed to tsunamis.

**Disaster risk reduction (DRR)** describes the policy objective of reducing risk. **Disaster risk management (DRM)** describes the actions that aim to achieve this objective. Actions include **prospective risk management**, such as better planning, designed to avoid the construction of new risks; **corrective risk management**, designed to address pre-existing risks; **compensatory risk management**, such as insurance that shares and spreads risks; and **disaster management** measures such as business continuity planning, preparedness and response. Risk governance is used to describe how national or local governments work with business, civil society and other actors to organize DRM, including, for example, through institutional arrangements, legislation, policies and strategy.

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i    See UNISDR, 2009. Terminology on Disaster Risk Reduction. Geneva, Switzerland: UNISDR.

ii    Based on a definition developed by the World Bank to estimate the wealth accumulated historically in a country (World Bank, 2010a).