# (initial) Typology of shocks

An event can cause a candidate shock when (1) there is a direct or indirect impact on the socio-ecological system (social capital or environment), (2) it is sudden, and (3) that impact is high. Considering that an event can cause a shock, this one can be classified into one of the five types below based on which subsystem impacts (see below). For instance, the political, economic, and social systems are functionally differentiated subsystems of society (Albert, 2022).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | **Type of shock** | **Impacted subsystem** | | Environmental | Environmental | | Technological | Technological | | Economic | Economical | | Cultural | Social | | Political | Political | |  |

1. *Natural disasters* such as hurricanes, tornados, floods, and closed or downsized employers (Atkinson, 2013; Besser, 2013; Imperiale & Vanclay, 2016). These can also impact the social capital (Meyer, 2018). These natural disasters whose impact on social capital and the environment is significant and suddencan be considered **environmental shocks**.
2. **Economic shocks** are sudden events causing a significant impact on the local economy (Besser et al., 2008). The impact can be directly by the economic shock itself (i.e. through the loss of jobs or the loss of physical infrastructure) and indirectly by the changes in social capital resulting from the shock (Besser et al., 2008).
3. While *technological disaster* is commonly addressed under environmental contamination (Ritchie & Gill, 2007), meaning a “man-made contamination of an environment that persists over time”(Ritchie & Gill, 2007). These disasters can be caused by various events, including dam collapses, explosions, and nuclear accidents, commonly called *technological catastrophes* (Baum et al., 1983; Manion & Evan, 2002), which we will call **technological shocks**. The impacts of technological disasters can create: “(1) cultural change, which involves ‘‘reality disjuncture’’ (i.e., no shared group assumptions) and (2) structural change, which disrupts a community’s routines and social networks” (Ritchie & Gill, 2007).
4. Drawing from strategic management and social science, traumatic shocks “negatively and considerably disrupt broader society through culture and institutions” (Klüppel et al., 2018). On an individual level, trauma is a wound inflicted by an emotional shock that changes the mind and has behavioral repercussions, but **cultural shock** is a more abstract concept that includes collective identity, including religious and national identity. (Eyerman, 2013).
5. **Political shocks** are dramatic changes in the political system of a country that fundamentally alter the processes, relationships, and expectations that drive nation-state interactions (Bennett, 1998; Darendeli et al., 2021; Goertz & Diehl, 1995). Territorial changes, alterations in international power distribution, civil wars, and national independence are examples of this (Goertz & Diehl, 1995).

# variables from news (for shocks)

Estas variables son identifacadas con la noticia para medir la escala y saber si es shock or not y que tipo

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Economical | Social | Political | Environmental | Technological |
| * Economic loss from damages * Company bankruptcies | * Number of deaths | * Congressional “relief package” |  |  |

# Indicators (for collapse criteria)

Estos son indicadores globales del sistema y pueden servir para identifcar cunado se cumple alguno de los cuatro pilares

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Economical | Social | Political | Environmental | Technological |
| * GDP per Capita * GDP Grow * Inflation * Consumer Price Index * Unemployment Rate | * Happiness Index * Human development index * Healthcare Access and Quality Index * Freedom Rate * Internal displacements |  | * Death because of air pollution |  |

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