# (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).

REFERENCES

Albert, M. (2022). Observing world politics: Luhmann's systems theory of society and international relations. In *Luhmann and Law* (pp. 525-552). Routledge.

Atkinson, C. L. (2013). Toward Resilient Communities. <https://doi.org/10.4324/9780203076309>

Baum, A., Fleming, R., & Davidson, L. M. (1983). Natural disaster and technological catastrophe. *Environment and Behavior*, *15*(3), 333-354.

Bennett, D. S. (1998). Integrating and testing models of rivalry duration. *American Journal of Political Science*, *42*(4), 1200-1232.

Besser, T. L. (2013). Resilient small rural towns and community shocks. *Journal of Rural and Community Development*, *8*(1).

Besser, T. L., Recker, N., & Agnitsch, K. (2008). The impact of economic shocks on quality of life and social capital in small towns. *Rural Sociology*, *73*(4), 580-604.

Darendeli, I., Hill, T., Rajwani, T., & Cheng, Y. (2021). Surviving the Arab Spring: socially beneficial product portfolios and resilience to political shock. *Multinational Business Review*, *29*(4), 522-544.

Eyerman, R. (2013). Social theory and trauma. *Acta sociologica*, *56*(1), 41-53.

Goertz, G., & Diehl, P. F. (1995). The initiation and termination of enduring rivalries: The impact of political shocks. *American Journal of Political Science*, 30-52.

Imperiale, A. J., & Vanclay, F. (2016). Experiencing local community resilience in action: Learning from post-disaster communities. *Journal of Rural Studies*, *47*, 204-219.

Klüppel, L. M., Pierce, L., & Snyder, J. A. (2018). Perspective—The deep historical roots of organization and strategy: traumatic shocks, culture, and institutions. *Organization Science*, *29*(4), 702-721.

Manion, M., & Evan, W. M. (2002). Technological catastrophes: their causes and prevention. *Technology in Society*, *24*(3), 207-224.

Meyer, M. A. (2018). Social capital in disaster research. *Handbook of disaster research*, 263-286.

Ritchie, L. A., & Gill, D. A. (2007). Social capital theory as an integrating theoretical framework in technological disaster research. *Sociological Spectrum*, *27*(1), 103-129.

Solability. (2024). *The Global Sustainable Competitiveness Index*.