

## 2

### Cleaning Our Messes

#### *The Unprotected Workers Keeping Climate Change at Bay*

JESSICA McMANUS WARNELL

#### **Engaging Environmental Violence**

The chapter examines the communities and workers most impacted by acute climate disasters within the context of business's role in human rights, stakeholder well-being, and resilience, featuring illustrative examples from Japan and the United States. The disproportionate impact of climate change on the poor and vulnerable is clear, though the role of disaster "first responders" and essential workers is largely missing from academic discourse and policy solutions. Globally, recovery in the wake of environmental disasters falls on underprotected workers. Workers are largely transient, underpaid, and often work without legal protections. These considerations are inextricably linked to business with its tremendous potential for impact. The role of business in climate change, indicted as much of the problem's genesis and hailed as the source of innovative solutions, is clear. Its responsibilities to these workers and their communities, reflecting a stakeholder conception of business, are significant. The toll of environmental violence and the human rights of those who clean our climate messes must be part of our discourse and our solutions.

#### **2.1 Introduction**

Witness the 2021 climate talks of COP26 in Scotland, and 2022's COP27 in Egypt as this essay goes to press – while politicians meet to negotiate the nuances of climate strategy, people around the globe toil away, cleaning up the world's environmental messes. The disproportionate impact of climate change on the poor and vulnerable is clear. We are at a better-late-than-never stage of universal reckoning with the implications of climate change, with increasing natural disasters like droughts, hurricanes, and other catastrophes not allowing any of us to look the other way. Climate change presents a curious manifestation of the impacts of

psychological distance [1]. Decision-makers in advanced economies utilize temporal, uncertainty, and proximity biases to fail to act in meaningful ways – climate change is perceived to be distant on each of these dimensions. But this is a luxury and a blind spot. Across the world, the costs of doing the dirty work of recovery and rebuilding in the wake of these disasters fall on frontline workers who are largely missing from public discussion and from policy solutions. From the irradiated soil and metal still smoldering in the wake of the triple disaster in Fukushima, Japan, to the communities in the western United States ravaged by wildfires, the workers at the front lines, overexposed and underprotected, rebuild.

References to “frontline workers” have been in the headlines like never before since the COVID-19 pandemic unfurled. Coverage has largely been sympathetic and compassionate, with communities around the world praising workers’ efforts with rousing scenes of families clapping and banging pots on balconies to share their gratitude. Defined quite simply as “employees within essential industries who must physically show up to their jobs” [2], the popular discourse has only provided a glimpse into the vulnerability of this workforce and demands more thoughtful attention. Despite diverse contexts, the issues facing frontline workers have commonalities.

In 2019, I had the privilege of traveling to the Tōhoku region of Japan, including Fukushima, after several years of teaching a course on business and culture in Tokyo, and, for several years before that, examining business ethics in the United States and Japan with colleagues at a Japanese university. Studying business ethics in Japan is incomplete without looking at Fukushima. The disaster is part of the collective memory of the Japanese people. This tragedy touches each corner of the country. The triple disaster of earthquake, tsunami, and nuclear meltdown is arguably the most significant environmental disaster in recent memory and is a powerful illustration of natural and man-made disaster and its ramifications. Examining its lessons is more important now than ever as extreme weather events proliferate in the context of climate change. The impacts of these events are inconsistent. Not surprisingly, those communities that have the infrastructure and resources to mitigate them fare much better than those that are struggling even before these major disruptions. But no countries or communities are entirely immune. And when we look more closely at the ways communities of all types rebuild, we see vulnerable workers putting us back together – those workers who do not have the luxury of waiting for the outcomes of abstract policy debates.

At Fukushima Daiichi (plant number one), the cleanup continues, 10 years after the disaster. Since the early days of the tragedy, worker safety has been a concern [3]. Today, a rotating group of laborers are recruited by companies [4] contracted by Tokyo Electric Power Company (TEPCO), the owner and operator of the plant whose reactors were designed and maintained by General Electric. Here, I am not

describing the brave and dedicated engineers and plant employees who worked around the clock in the hours after the earthquake and tsunami, who saved Japan from an even more destructive event, and whose efforts have been chronicled in major motion pictures. Rather, this is the clean-up crew. This employment system in practice translates to many workers who are subcontracted day laborers, who work for a short period of time, and who are recruited from temp agencies from among the un- and underemployed across Japan. Some are homeless and many are migrants [5]. They have been largely unprotected from radiation under “state of emergency” rules that lift recommended dosage limits and other worker protections [6].

Years after the disaster, in the communities that had been devastated by the earthquake and tsunami even before the radiation contamination, I saw workers in white protective gear pushing back as nature retook some of her land, with trees sprouting in alleyways and vines crawling across the rubble of flattened storefronts. Scholars note that, despite the magnitude and singularity of this event, the phenomenon of these “invisible” workers and the labor brokers who employ them is not unique to Fukushima, nor is it new. The most vulnerable have been cleaning up our messes as long as we have been making them. All the while, the world debates substantive action.

## **2.2 Climate Talks and the Business of Disaster**

The already fragile hopes that meaningful consensus on the ways forward would emerge from 2021’s COP26 international climate talks faded fast, even while the events were still underway. While protesters swarmed (peacefully) through the streets of Glasgow, the scene was disappointing inside the conference hall. Countries walked back pledges [7] made earlier in the week. The COP26 President had to send a memo mid-conference to delegates who couldn’t seem to agree on much of anything, imploring them to stop quibbling and take steps toward tangible decision-making [8]. Despite some bright spots [9] such as the inclusion of language supporting a phase-down of coal and new rules for carbon trading, the consensus among global advocates and environmental policymakers is that COP26 was largely a failure [10]. The talks were long on promises and devastatingly short on details for implementation.

COP27 does not appear to be a cause for optimism. The talks have been described as “chaotic,” “exasperating,” and short on substance [11]. At the convening’s close, headlines described its ending in “tears and frustration” as attendees bemoaned the lack of meaningful progress [12]. If the guest list is any indication, it is illustrative to note that representation by delegates linked to the fossil fuel industry, including lobbyists, who even at COP26 in 2021 made up the largest

single group represented, saw their presence increase by 25% at COP27, more than the combined delegations from the 10 countries most impacted by climate change [13]. With optimism we might note that this signals new levels of commitment. But representation matters, and those most impacted have been missing from the discourse and continue to do the work. While the talks continue, so does the suffering of those who are bearing the costs of environmental degradation.

This front-line worker vulnerability is certainly not limited to climate disasters. Witness the workers along global supply chains [14] getting necessary equipment where it needs to go, the warehouse employees [15] keeping shelves stocked, and the hospital cleaning staff [16] keeping our facilities free from germs. Frontline workers across sectors face low pay, little opportunity for advancement, and less benefits like sick leave, and their roles are disproportionately filled by workers of color [17]. This phenomenon of the most vulnerable as first responders happens around the world. Research on disasters and their impact on poor communities reveals a vicious cycle of heightened vulnerability. Poverty reduction should be considered alongside disaster recovery when it comes to policy response to both issues [18]. Disruptions like disasters and pandemics offer a silver lining of providing a clear look at what is working and what is not. Recovery can be more equitable and more environmentally sustainable [19], but these transformations after disruptions require commitment.

And still, there are so many unresolved catastrophes at Fukushima. At the forefront of most discussions these days is what to do with the more than a million metric tons of contaminated water. The Japanese government has announced they will begin discharging it into the ocean, with the area's fishermen among the most vulnerable to, and impacted by, this decision [20]. Of course, other areas of the world could feel this impact, along with that of the millions of cubic meters of contaminated soil that no one wants to store. Workers, over 70 000 of them, removed the topsoil, branches, grass, and other materials in a drive to decontaminate so evacuees could return. I had the luck and privilege to witness the clean-up, briefly and from a safe distance, and to walk away.

So, what do nuclear clean-up crews in Japan and those who rebuild the US coasts after extreme weather have in common? [21] These laborers, largely transient, coming from communities other than those where they are working, are underpaid and under protected. They are often working without the coverage of labor law, often as subcontractors of the subcontractors, where no one is watching. Considering the United States alongside a country like Japan offers important advantages. Both countries have robust market systems, democratic governments, and critical economic and security relationships that can provide mutually informative lessons in environmental response in ways that other case studies may not. Profiles of migrant workers who follow climate disasters [22] shine a light on the

backbreaking labor [23] done by this transient transitory workforce. They are often immigrants, largely ineligible for financial and healthcare aid.

And the business of disaster response is booming [24]. Consider recent history: In 2020, the United States set a record for the costliest disasters ever – with total costs reaching \$95 billion – representing 22 billion-dollar disasters (including a record number of named tropical storms and the most active wildfire year on record) [25]. Projections for disaster costs in the years ahead are unsurprisingly dire. In the United States, disaster response and emergency relief consist of about 1100 companies representing a \$11 billion industry [26]. Consolidation is increasing and the number of distinct enterprises is trending downward. Projections in the industry note a likelihood of increased vulnerability due to factors including rising sea levels. These factors should be considered within the context of their implications for human rights.

### **2.3 Environmental Violence and the Human Rights Framework**

Marcantonio and Fuentes [27] review the existing inconsistent and insufficient descriptions of the term environmental violence (EV) and develop a useful definition and analytical model of EV that allows for tracking, measuring, and ultimately reducing it. Thus, EV is “direct and indirect harm experienced by humans due to toxic and no-toxic pollutants put into a local – and concurrently the global – ecosystem through human activities and processes.” As a framework, EV “specifies and centers excess human-produced pollution as a violent environmental health hazard,” recognizing that EV: arises as part of dynamic socio-ecological processes; is facilitated by structural and cultural contexts; is mediated by human vulnerability to it; and exacerbates and creates harm and power differentials at individual, community, regional, and global scales [27]. Here there is a profound connection between this conceptualization of EV and the experiences of the individuals and communities who respond to disasters. The frame of human rights, reflecting consensus on our responsibilities to one another in this context, provides useful guidance as we consider what ought to be done.

Worker rights are fundamentally human rights, and the most direct form of EV experienced by disaster responders is their disproportionate bearing of the costs of our economic and social activities. The natural hazards that escalate into disasters through the ways humans contribute and respond to them become tied to worker livelihoods without adequate protections. The human rights framework, outlined in the United Nations Universal Declaration of Human Rights (UDHR) [28], offers guidance for the universal consideration of the rights of workers. This milestone document, developed through engagement with private, civic, and government leaders, recognizes that inherent human dignity is the foundation of just

and peaceful societies. Work, the primary means for sustenance and survival, is addressed directly. Article 23 of the framework acknowledges the right to just and favorable working conditions, and just and favorable remuneration “ensuring for himself and his family an existence worthy of human dignity ....” While the UDHR does not provide all the answers to how these principles can be actionalized, it is clear that there is a moral obligation at play, one that rests on the fundamental conditions of human dignity.

An interpretive guide for business takes the UDHR a step further – and ensures it is accessible to business leaders, who are responsible for making most of the decisions on the conditions in which work itself will be done [29]. Additional consideration is prompted by the United Nations Sustainable Development Goals (SDGs). Specifically, Goal 8 advocates for the promotion of “sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.” Provision 8.8 makes clear its attention to vulnerable workers: “Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.”

Enderle’s (2021) work reminds us of the promise of the human rights framework – it allows for universal application, independent of citizenship, guaranteed simply through human birthright. It is accessible to all, a bridge between worldviews, and it liberates – and has provided the foundation for international law, platforms for NGOs around the world, and a model for bills of rights in countries across the globe [30]. The interpretive guide for business offers a “protect, respect, remedy” conception, translating the principles of human rights into actionable guidance.

Ruggie’s (2011) work developing this framework, informed by years of research and consultations with businesses, civic organizations, governments, and victims of corporate abuses, recognizes three key ideas. First, states have a duty under international human rights law to protect everyone within their jurisdiction or territory from abuses caused by business – this duty translates to effective laws, regulations, and mechanisms for access to effective remedy for those who have been impacted. Second, businesses have the responsibility to respect human rights where they operate, whatever their size or industry. This duty includes knowing actual or potential risks, preventing and mitigating abuses, and addressing adverse impacts. Finally, the framework recognizes the fundamental rights of communities and of individuals to access effective remedy when rights have been adversely affected by business activities. States must ensure that the people affected can access remedy through the courts or other legitimate processes. Companies are expected to establish or participate in these mechanisms [31].

Key here is the idea that the business community has the proximity, power and resources, and the inherent association through causality, to lead efforts to ensure

humane conditions for workers. Inherent rights prompt the corollary of our duties to ensure they are protected. While robust regulations are fundamental, the intersection of power and responsibility calls on our business leaders to lead.

Disaster cleanup can certainly be good and noble work when paid fairly and done in conditions that have been made as safe as reasonably possible. However, far too often this rosy scenario is far from the reality on the ground. The workers rebuilding our communities after these catastrophes are vulnerable to harms from wage theft to labor trafficking, and other violations of human rights and dignity. In the wake of disasters, workers face barriers to healthcare access. They often work in conditions characterized by extreme temperatures [32], exposure to harmful bacteria, chemicals, and other contaminants, and hazards such as electrocution, falls, and other injuries [33]. These workers are at high risk [34] for post-traumatic stress disorder (PTSD) and other mental health impacts [35]. Underreporting of harms is rampant, often due to the workers' fragile footing in their communities. Wage theft, in the form of underpaid or unpaid overtime, bounced checks, or other violations, is rampant. The status of the US Occupational Safety and Health Administration (OSHA), with significant funding cuts under the previous administration, even despite being historically underfunded, means labor inspection and compliance offices are underresourced and understaffed.

These considerations of environmental justice extend to diverse contexts, such as climate displacement and migration, issues which seem to merit some media coverage, at least if one knows where to look. The workers who are the first responders, however, seem to be exempt even from this cursory attention. Perhaps this invisibility reflects our assumptions that these workers are freely opting into this work and have calculated that the risk is worth the reward. However, this reading reflects a profound misunderstanding of what it means to "choose." Kalleberg (2009) reminds us that precarious work "transfers social and economic risks from businesses and state institutions on to workers through common features like low pay, employment insecurity and insufficient social protection," while particularly vulnerable to perpetuating a cycle of labor "opportunities" that offer no rights or protections.

There are many ways the dignity and human rights of workers must merit our attention. This is just one. The work we do connects us to one another and to the resources and abundance of our environment. Work is necessary for our sustenance, a vehicle for fulfillment, and a way to realize our humanity. A decent society requires decent work. Acknowledgement of those who rebuild after disaster feels missing as the world watches climate talks and the latest extreme weather event featured on the nightly news. Disasters and their intersection with human rights have many dimensions [36]. Worker dignity and protections are issues of human rights and, within the machinery of disruption and its management, those who are the closest to the response itself are often the most invisible.

## 2.4 Protecting Those Who Clean Our Messes

The business of disaster response is booming, and projections are dire. A through-line is the “invisible” laborers who represent our first response. There are steps we can take to better protect the human rights of these workers who are doing our dirty work.

The unitary government in Japan and the federal government in the United States – those administrations that have the most power over policy and that grant the contracts for disaster recovery – have the potential for tremendous impact and can provide a model for other countries around the world. These governments can act *by strengthening regulatory protections and rewarding those companies that offer safer conditions and fairer wages*. The role of business in climate change makes the headlines every day, with companies indicted as much of the problem’s genesis and hailed as the source of innovative solutions. Business leaders have tremendous potential to impact the collective responses moving forward. We have counsel from frameworks like the UDHR and its guidance for business. We must translate that guidance into action. In 2022, financial regulators in Japan announced a revision in the Tokyo Stock Exchange’s corporate governance code to include a provision requiring that companies “protect human rights.” It was stipulated that boards of directors should recognize human rights as vital both to responsibility and to enhancing corporate value, and recommended actions such as ensuring fair labor conditions for overseas partners. Also in 2022, the US Securities and Exchange Commission proposed requiring environmental, social, and governance (ESG) disclosures in corporate reporting, a proposal that is under review and will most certainly undergo changes but is a step with the potential to shine a light on employee rights. These steps reflect growing attention to the need for both “carrots” and “sticks” – regulatory mechanisms and appeals to the benefits of creating stakeholder value – to incentivize companies to improve their environmental, social, and governance efforts. Now we must implement them. Without doing so, we are failing those who are most impacted by climate disasters – from the most vulnerable communities digging out, rebuilding, and relocating, to those doing the very work necessary to dig us out [37].

*Increasing transparency about these operations* is a precursor to equitable improvements. Which companies are being awarded the contracts to manage the response to these catastrophes, and what are the conditions of the work that is to be done? What protections are in place for the workers, and what is their recourse if they fall to harm? This transparency requires workers and their advocates to have a place at the table [38] when decisions about climate response are made. This representation extends to environmental policy in general. For just one example, consider that despite the fact that indigenous people make up 5% of the global population but protect 80% [39] of the world’s biodiversity, some reported questions about their access to the most recent COP talks [40]. There have been other



criticisms about underrepresentation of the poorer, and particularly vulnerable, countries. In the wind-up to COP27, leaders of several African countries, poorly equipped to adapt to the effects of climate change that are driven by other parts of the world, gathered in a UN-backed meeting to discuss adaptation; their Western counterparts largely declined invitations to attend [41]. Who [42] has a seat at this table [43] when decisions are made, and whose voices are most resonant? Who is ultimately responsible for worker well-being? An additional complexity at Fukushima was the makeup of the response. GE and TEPCO successfully held off lawsuits by US service members who claimed radiation exposure, citing Japan's provenance – a finding that releases US-based GE, from any liability [44]. These ideas of inclusive stakeholder engagement are not new, but stakeholder representation is the only way to ensure equitable ways forward. Nobel prize-winning economist Elinor Ostrom provided important insights into the principle of subsidiarity [45]. While governments must act in supporting communities and protecting citizens from all manner of strife, local-level stakeholders have a critical voice and their potential for meaningful action in the face of disasters must be acknowledged and prioritized. In addition, Freeman's seminal work on the stakeholder theory of management (2010) is notable here for two reasons: first, it reminds us that businesses must be part of comprehensive solutions and not marginalized nor framed solely in opposition to climate policy discussions; second, it implores us to acknowledge that value creation of our businesses must extend to those who are impacted by their actions, not least of all those who are most vulnerable.

*Measuring impact and producing clearer data* is key. The challenges of measuring impact and the alphabet soup of organizations charged with reporting ESG impacts of our corporations lack standardization, widespread adoption, and comprehensive accounting for impact. Accurately allowing our market mechanisms to account for environmental and social harms requires that we mitigate the information asymmetry between decision-makers – including workers “electing” to do this work despite lack of full awareness of its harms or of their rights, for just one example. We must also recognize the first generation problem – that environmental and social protections most often come about in a market economy after a “first generation” of people or of resources have been irrevocably harmed, bringing the true costs of an activity to light. Our task then becomes gathering substantive information and communicating it persuasively to stakeholders and to decision-makers. This includes data on competitive and fair pay, numbers and conditions of the work of subcontracted employees, and related information. To do this work justly requires that we adopt an honest and transparent approach to the true impacts of business activity – a precursor to rational decision-making about policy and practice.

All of these considerations demand *rethinking disaster preparedness and community resilience*. Recognizing that these are compound disasters [46] – complex

crises like natural hazards intersecting with poverty or other socioeconomic challenges – and that they will only continue to increase means that we examine our institutions and processes and develop their capacities to respond effectively and equitably. Current risk assessments and tools for disaster preparedness like the Sendai framework fail to adequately account for social and structural injustice. Data and frameworks only lead to human flourishing when they are considered in the context of the social conditions and with diverse stakeholders contributing to and benefiting from preparations and interventions.

These questions prompt me to consider where we are as a society more generally. In this other tremendous disruption, the pandemic, many of us are becoming quite adept at technologies that require us to communicate in new ways. Our screens are pointed at each other like never before. We watch videos of catastrophic environmental destruction; it is much harder to plead ignorance about or downplay injustice when we can see it. The excuse of psychological distance is no longer valid, if it ever was. We tell our students that reflection – the need to make sense of what we are seeing and doing – is a critical skill. And we know that reflection often precedes change. Multisector collaboration, stakeholder engagement, and thoughtful consideration of comprehensive and representative data are key. Shining a light is a critical step. We owe those who are doing our dirty work our attention and our esteem. While we quibble about policy and calculate degrees of average temperature increase before we pass the point of no return, let us look, and not forget, the workers who do not have the luxury to project and calculate and debate, and who are patching what is broken, rebuilding what has been destroyed, staving off disaster.

## References

- [1] Spence A, Poortinga W, Pidgeon N. The psychological distance of climate change. *Risk Analysis*, 32 (2012), 957–972.
- [2] Tomer A, Kane WJ. To protect frontline workers during and after Covid-19 we must define who they are. *Brookings*. 2020. Available from: [www.brookings.edu/research/to-protect-frontline-workers-during-and-after-covid-19-we-must-define-who-they-are/](http://www.brookings.edu/research/to-protect-frontline-workers-during-and-after-covid-19-we-must-define-who-they-are/)
- [3] O’Connell C. Health and safety considerations: Fukushima nuclear power plant workers at risk of heat-related illness, 健康と安全性への配慮—心臓にかかわる病気の危険に曝される福島原発作業員. *The Asia-Pacific Journal*, 9(1) (1), January 3, 2011. Available from: <https://apjpf.org/2011/9/1/Cara-O’Connell/3576/article.html>
- [4] Jobin P. Dying for TEPCO? Fukushima’s nuclear contract workers, 東京電力のために死ぬ? 福島原発請負労働者. *The Asia-Pacific Journal*, 9(18) (3), May 2, 2011. Available from: <https://apjpf.org/2011/9/18/Paul-Jobin/3523/article.html>
- [5] United Nations. Japan: Fukushima clean-up workers, including homeless, at grave risk of exploitation, say UN experts. *United Nations Human Rights Office of the High Commissioner*. 2018. Available from: [www.ohchr.org/en/press-releases/2018/08/japan-fukushima-clean-workers-including-homeless-grave-risk-exploitation-say?LangID=E&NewsID=23458](http://www.ohchr.org/en/press-releases/2018/08/japan-fukushima-clean-workers-including-homeless-grave-risk-exploitation-say?LangID=E&NewsID=23458)

- [6] Hecht G. Invisible production and the production of invisibility: Cleaning, maintenance, and mining in the nuclear sector. In *Routledge Handbook of Science, Technology, and Society*. (Oxfordshire: Routledge, 2014): 346–361.
- [7] Jiao C, Shankleman J. Indonesia says U.K. misrepresented its COP deforestation pledge. *Bloomberg*. November 3, 2021. Available from: [www.bloomberg.com/news/articles/2021-11-04/indonesia-says-it-won-t-halt-development-to-slow-deforestation](https://www.bloomberg.com/news/articles/2021-11-04/indonesia-says-it-won-t-halt-development-to-slow-deforestation)
- [8] UN Climate Change Conference. Note by the President, Organisation of work in the second week of the Conference. November 4, 2021. Available from: [https://unfccc.int/sites/default/files/resource/COP\\_President\\_Note\\_on\\_Work\\_in\\_Week\\_2.pdf](https://unfccc.int/sites/default/files/resource/COP_President_Note_on_Work_in_Week_2.pdf)
- [9] Hill AC, Babin M. What COP26 did and didn't accomplish. *Council on Foreign Relations*. November 15, 2021. Available from: [www.cfr.org/in-brief/cop26-climate-outcomes-successes-failures-glasgow](https://www.cfr.org/in-brief/cop26-climate-outcomes-successes-failures-glasgow)
- [10] Robinson M. Our leaders failed us at COP26. To succeed at COP27, they'll need to put self-interest aside. *Time Magazine*. 2021. Available from: <https://time.com/6121116/cop26-negotiations-failed-why/>
- [11] Ainger J, Dlouhy JA, El Wardany S, Millan Lombrana L. COP27 gets chaotic with mysterious draft text, elusive president. *Bloomberg*. November 17, 2022. Available from: [www.bloomberg.com/green-united-nations-climate-summit](https://www.bloomberg.com/green-united-nations-climate-summit)
- [12] Hodges C. COP27 ends in tears and frustration: 'The world will not thank us,' *Financial Times*. November 20, 2022. Available from: [www.ft.com/content/03d7609b-decc-40fc-8029-a6cdebb11752](https://www.ft.com/content/03d7609b-decc-40fc-8029-a6cdebb11752)
- [13] McGrath M. COP27: Sharp rise in fossil fuel industry delegates at climate summit. *BBC News*. 2022. Available from: [www.bbc.com/news/science-environment-63571610](https://www.bbc.com/news/science-environment-63571610)
- [14] Casey-Boyce C. COP26: Workers are critical to a fair and just transition. *Ethical Trading Initiative*. 2021. Available from: [www.ethicaltrade.org/blog/cop26-workers-are-critical-to-fair-and-just-transition](https://www.ethicaltrade.org/blog/cop26-workers-are-critical-to-fair-and-just-transition)
- [15] University of Illinois School of Public Health. COVID-19 risks to warehouse workers. 2022. Available from: <https://publichealth.uic.edu/news-stories/covid-19-risks-to-warehouse-workers/>
- [16] Brady M. Coronavirus: Are hospital cleaners forgotten heroes in this crisis? *BBC News*. April 20, 2020. Available from: [www.bbc.com/news/world-us-canada-52359101](https://www.bbc.com/news/world-us-canada-52359101)
- [17] McKinsey & Company. Race in the workplace: The frontline experience. 2022. Available from: [www.mckinsey.com/featured-insights/diversity-and-inclusion/race-in-the-workplace-the-frontline-experience](https://www.mckinsey.com/featured-insights/diversity-and-inclusion/race-in-the-workplace-the-frontline-experience)
- [18] Hallegatte S, Vogt-Schilb A, Rozenberg J, Bangalore M, Beaudet C. From poverty to disaster and back: A review of the literature. *Economics of Disasters and Climate Change*, 4 (2020), 223–247. <https://doi.org/10.1007/s41885-020-00060-5>; [www.business-humanrights.org/en/big-issues/covid-19-coronavirus-outbreak/supply-chain-workers/](https://www.business-humanrights.org/en/big-issues/covid-19-coronavirus-outbreak/supply-chain-workers/)
- [19] Schreurs M. Reconstruction and revitalization in Fukushima a decade after the “triple disaster” struck: Striving for sustainability and a new future vision. *International Journal of Disaster Risk Reduction*, 53 (2021), 102006. <https://doi.org/10.1016/j.ijdr.2020.102006>
- [20] Murakami S. A decade on, Fukushima farmers fear nuclear-tainted water's impact on business. 2021. Available from: [www.reuters.com/business/energy/fukushima-farmers-fear-contaminated-water-could-hurt-business-10-years-after-2021-11-05/](https://www.reuters.com/business/energy/fukushima-farmers-fear-contaminated-water-could-hurt-business-10-years-after-2021-11-05/)
- [21] Shrader-Frechette K. Nuclear catastrophe, disaster-related environmental injustice, and Fukushima, Japan: Prima-facie evidence for a Japanese 'Katrina.' *Environmental Justice*, 5(3), 2012.

- [22] Stillman S. The migrant workers who follow climate disasters. *The New Yorker*. November 1, 2021.
- [23] Resilience Force. A people's framework for disaster response. Available from: <https://resilienceforce.org/framework-for-climate-disaster/>
- [24] Miranda L. 'God's Work': Inside the booming world of disaster response. *CNBC News*. September 3, 2021. Available from: [www.nbcnews.com/business/business-news/gods-work-booming-world-disaster-response-rcna1896](http://www.nbcnews.com/business/business-news/gods-work-booming-world-disaster-response-rcna1896)
- [25] National Oceanic and Atmospheric Administration. Record number of billion dollar disasters struck US in 2020. January 8, 2021. Available from: [www.noaa.gov/stories/record-number-of-billion-dollar-disasters-struck-us-in-2020](http://www.noaa.gov/stories/record-number-of-billion-dollar-disasters-struck-us-in-2020)
- [26] IBIS World. Natural disaster & emergency relief services industry in the US – Market Research Report. 2022. Available from: [www.ibisworld.com/united-states/market-research-reports/natural-disaster-emergency-relief-services-industry/](http://www.ibisworld.com/united-states/market-research-reports/natural-disaster-emergency-relief-services-industry/)
- [27] Marcantonio R, Fuentes, A. Environmental violence: A tool for planetary health research. *The Lancet Planetary Health*, 7(10) (2023), e859–e867. [https://doi.org/10.1016/S2542-5196\(23\)00190-0](https://doi.org/10.1016/S2542-5196(23)00190-0)
- [28] United Nations. Universal declaration of human rights. Available from: [www.un.org/en/about-us/universal-declaration-of-human-rights](http://www.un.org/en/about-us/universal-declaration-of-human-rights)
- [29] United Nations. Interpretive guide to business and human rights. 2012. Available from: [www.ohchr.org/sites/default/files/Documents/Publications/HR.PUB.12.2\\_En.pdf](http://www.ohchr.org/sites/default/files/Documents/Publications/HR.PUB.12.2_En.pdf)
- [30] Enderle G. *Corporate Responsibility for Wealth Creation and Human Rights*. (Cambridge: Cambridge University Press, 2012); <https://keough.nd.edu/re-learning-the-human-rights-language-an-imperative-for-our-time/>
- [31] United Nations. Guiding principles on business and human rights. Available from: [www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinesshr\\_en.pdf](http://www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinesshr_en.pdf)
- [32] Beyeler NS, DeJarnett NK, Lester PK, Hess JJ, Salas RN. Lancet countdown on health and climate change policy brief for the United States of America. 2022. Lancet Countdown U.S. Policy Brief (London, UK).
- [33] Stillman S. The migrant workers who follow climate disasters. *The New Yorker*. November 1, 2021.
- [34] Mao X, Fung OWM, Hu X, Loke AY. Psychological impacts of disaster on rescue workers: A review of the literature. *International Journal of Disaster Risk Reduction*, 27 (2018), 602–617.
- [35] Kakamu T, Hidaka T, Kumagai T, Jinnouchi T, Sato S, Masuishi Y, Endo S, Nakano S, Koyama K, Fukushima T. Characteristics of anxiety and the factors associated with presence or absence of each anxiety among radiation decontamination workers in Fukushima. *Industrial Health*, 57(5) (2019). <https://doi.org/10.2486/indhealth.2018-0094>
- [36] Da Costa K, Pospieszna P. The relationship between human rights and disaster risk reduction revisited: Bringing the legal perspective into the discussion. *Journal of International Humanitarian Legal Studies*. Published online May 4, 2015. Available from: [https://brill.com/view/journals/ihls/6/1/article-p64\\_4.xml?language=en](https://brill.com/view/journals/ihls/6/1/article-p64_4.xml?language=en)
- [37] Flavelle C. How the government is failing Americans uprooted by calamity. *The New York Times*. 2022. Available from: [www.nytimes.com/2022/07/23/climate/natural-disaster-relief-fema.html](http://www.nytimes.com/2022/07/23/climate/natural-disaster-relief-fema.html)
- [38] Currey K, Sofa F. This alliance of Indigenous peoples brings climate solutions to COP26. *Ford Foundation*. 2021. Available from: [www.fordfoundation.org/news-and-stories/stories/posts/this-alliance-of-indigenous-peoples-brings-climate-solutions-to-cop26/](http://www.fordfoundation.org/news-and-stories/stories/posts/this-alliance-of-indigenous-peoples-brings-climate-solutions-to-cop26/)

- [39] Raygorodetsky G. Indigenous peoples defend Earth's biodiversity – But they're in danger. *National Geographic*. 2018. Available from: [www.nationalgeographic.com/environment/article/can-indigenous-land-stewardship-protect-biodiversity-](http://www.nationalgeographic.com/environment/article/can-indigenous-land-stewardship-protect-biodiversity-)
- [40] Lakhani M. 'A continuation of colonialism': Indigenous activists say their voices are missing at Cop26. *The Guardian*. November 3, 2021. Available from: [www.theguardian.com/environment/2021/nov/02/cop26-indigenous-activists-climate-crisis](http://www.theguardian.com/environment/2021/nov/02/cop26-indigenous-activists-climate-crisis)
- [41] Sguazzin A. Africa's headed for a climate showdown with rich nations. *Bloomberg*. October 24, 2022. Available from: [www.bloomberg.com/news/articles/2022-10-24/africa-rich-nations-to-faceoff-on-oil-gas-drilling-at-cop27-climate-summit](http://www.bloomberg.com/news/articles/2022-10-24/africa-rich-nations-to-faceoff-on-oil-gas-drilling-at-cop27-climate-summit)
- [42] McSweeney R. Analysis: Which countries have sent the most delegates to COP26? *Carbon Brief*. March 11, 2021. Available from: [www.carbonbrief.org/analysis-which-countries-have-sent-the-most-delegates-to-cop26/](http://www.carbonbrief.org/analysis-which-countries-have-sent-the-most-delegates-to-cop26/)
- [43] Meredith S. COP26 sharply criticized as the 'most exclusionary' climate summit ever. *CNBC*. November 25, 2021. Available from: [www.cnbc.com/2021/11/05/cop26-sharply-criticized-as-the-most-exclusionary-climate-summit-ever.html](http://www.cnbc.com/2021/11/05/cop26-sharply-criticized-as-the-most-exclusionary-climate-summit-ever.html)
- [44] Earls M. GE, Tokyo power company win appeal over Fukushima meltdown. *Bloomberg Law*. May 22, 2020. Available from: <https://news.bloomberglaw.com/environment-and-energy/ge-tokyo-power-company-win-appeal-over-fukushima-meltdown>
- [45] Ostrom E. Beyond markets and states: Polycentric governance of complex economic systems. *Prize Lecture*. December 8, 2009. Available from: [www.nobelprize.org/uploads/2018/06/ostrom\\_lecture.pdf](http://www.nobelprize.org/uploads/2018/06/ostrom_lecture.pdf)
- [46] Kruczkiewicz A, Klopp J, Fisher J, Mason S, McClain S. Compound risks and complex emergencies require new approaches to preparedness. *Proceedings of the National Academy of Sciences*, 118(19). Available from: <https://doi.org/10.1073/pnas.2106795118>