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Questionnaire in relation to Human Rights Council resolution 53/6 on human rights and climate change

In the two [Higher Ground? reports](https://www.ilr.cornell.edu/global-labor-institute/higher-ground-fashions-climate-breakdown) from the Global Labor Institute at Cornell University and Schroders, we measure the present and future risks of exposure to extreme heat and flooding in some of the world’s most climate-vulnerable countries for apparel workers, suppliers, fashion brands and investors.

The report finds the climate vulnerability from extreme heat and flooding of 32 apparel production hubs is widespread. Four countries representing 18 percent of global apparel exports (Bangladesh, Cambodia, Pakistan and Vietnam) risk foregoing $65 billion in export earnings in 2030—equivalent to a 22% decline—and nearly 1 million new jobs due to slower growth. And 2050 figures are much higher: 68.8 percent lower for earnings in a non-climate-adaptive scenario and 34.5 percent for employment, or 8.64 million fewer jobs.

Researchers also mapped the supply chain footprint of six global apparel brands across the four production centers. Findings show workers and manufacturers for all six brands face productivity impacts from extreme heat and flooding, that are conservatively estimated to be equivalent to 5 percent or more of brand’s net operating profits after tax.

Cornell GLI and Schroders will present these findings for discussion in fora this year including at the OECD, ILO, European Parliament, and for constituencies—policymakers, workers, employers, buyers and retailers, and investors in the U.S., U.K., E.U. member states, Bangladesh, Cambodia, China-Hong Kong.

**2.**

In our two reports, we represent relative heat stress levels using the number of days per year—’exceedance days’—for which the wet-bulb globe temperature (WBGT) readings reach above 30.5°C - the threshold noted above at which an hour of light-to-moderate work should be equal parts effort and rest. We also present exceedance days for daily average maximum (dry-bulb) temperatures above 35°C to capture changes in high heat levels in cities with lower humidity.

Our flooding projections include both coastal or tidal and ‘storm surge’ flooding (hereafter, ‘coastal’ flooding), and a combination of ‘fluvial’, or river flooding, with ‘pluvial’ or rainfall flooding (hereafter, ‘riverine’). The indicators of flood vulnerability are the percentages of each center’s populations that will be inundated—most of them at less than 0.5 meter—in a 10-year flood.

Using flooding models based on our middle-of-the-road climate scenario (RCP 4.5), we map inundation levels for more than eight thousand apparel and footwear factories in our four focus countries. We estimate annual ‘disruption days’— the production days lost to flooding and recovery—in a non-adaptive scenario for each factory in 2030 and 2050 using the maximum ‘inundation depths’ from coastal and riverine flooding for two-, ten- and one hundred-year events, or ‘return periods’ (RP2, RP10, and RP100). As with heat-productivity impacts, we convert these disruptions into aggregate annual impacts on export earnings and jobs.

We project earnings and employment impacts in 2030 and 2050 under two growth scenarios: our ‘climate-adaptive’ scenario presents the growth trajectory of apparel industries that move quickly to reduce heat stress for workers. Our non-adaptive scenario calculates the damage of high heat stress and flooding in terms of export earnings and jobs foregone in a non-adaptive apparel industry. All four industries continue to grow in nominal terms between 2025 and 2050 but the effects of slower year-on-year growth are dramatic when compounded over just five years. The widening of the gaps between the scenarios is more extreme by 2050.

Taken together, projected earnings foregone under the non-adaptive ‘high heat and flooding’ scenario between 2025 and 2030 are USD 65.89 billion in 2030. That represents a 22 percent fall-off in export earnings against the ‘climate-adaptive’ scenario. New jobs foregone are over 950,000 or nearly 7 percent, by 2030. The projected 2050 figures are much higher. The effects of lower year-on-year growth in the non-adaptive scenario widens the gaps between the two scenarios: 68.8 percent lower for earnings in the non-adaptive scenario and 34.5 percent for employment, or 8.64 million fewer jobs.

The reports include numerous tables and graphic representations of the quantitative findings. See them at <https://www.ilr.cornell.edu/global-labor-institute/higher-ground-fashions-climate-breakdown>.

**3.**

We surveyed climate-related safety and health standards in our four countries. There are two stand-outs: Cambodian labor law is silent or designedly vague on climate-adaptative labor issues. There are no requirements for paid breaks, paid sick leave, pay during work stoppages, or rights during work stoppages. Cambodia’s legal framework, despite 30 years of intensive technical cooperation from the ILO and engagement by fashion brands, is clearly the weakest in this group. Vietnamese labor law stands out for its relative stringency on climate adaptation issues, including clear heat thresholds, paid breaks, paid sick leave, pay during force majeure work stoppages, and the right to halt dangerous work. Voluntary, private regulation standards are typically aligned to national legal standards. In the context of extreme heat and intense flooding already prevalent in production hubs in Bangladesh, Pakistan, India, China and elsewhere, existing global public, mandatory and private voluntary standards are inadequate.

**4**.

**Promising Practices**

* **International Standards with Heat and Flood Provisions:** Broad as they are, the additions of safety and health conventions to the set of core labor standards mean a boost for campaigns to introduce or tighten workplace safety rules in the countries covered in this report. Even if ILO member States have not ratified a core Convention they are expected to follow and write the standards into national law (ILO, 2022a). The ILO conventions known collectively as the Fundamental Principles and Rights at Work—in addition to freedom of association and collective bargaining, discrimination, child labor and forced labor—now include workplace health and safety. The ILO’s Occupational Safety and Health Convention, 1981 (No. 155) and its Promotional Framework for Occupational Safety, 2006 (No. 187) were promoted to the group of ILO core labor standards in 2022 (ILO, 2022a). The Hygiene Recommendation, 1964 (No. 120) and Protection of Workers’ Health Recommendation, 1952 (No. 97) prompt governments on extreme temperature exposure, ventilation and drinking water access. For example, “a competent authority should establish maximum and minimum standards of temperature”, and “all appropriate measures should be taken by the employer” to provide “suitable atmospheric conditions” as to avoid “excessive” humidity and heat (ILO, 1953).
* **National Legal Frameworks with Environmental Provisions:** In Asia, Malaysia provides a relatively strong and clear set of legal requirements and non-binding guidance regarding indoor heat. The obligations of employers will sound familiarly broad: “maintain such temperature as will ensure…prevention from bodily injury”. “If the temperature is… unduly high, adequate means shall be provided to cool the air or to create adequate air movement [for workers]”. Factory design must include “insulating material or [be] coated with white paint, white-wash or other heat reflecting material” and so on. Its non-binding recommendations include wet-bulb globe temperature limits for different effort levels: 32 °C (WBGT) for light work, 30 °C for moderate, 29 °C for heavy, and 28 °C for very heavy.
* **Trade policies such as the EU 2022 Carbon Border Adjustment Mechanism:** The European Union’s 2022 Carbon Border Adjustment Mechanism arguably comes closer with penalties for the import of goods that violate the E.U.’s carbon emission standards. The “landmark tool [puts] a fair price on the carbon emitted during the production of carbon intensive goods that are entering the E.U., and to encourage cleaner industrial production in non-E.U. countries” (European Commission, 2023). The proactive use of trade policy and agreements to advance protections for workers change according to the political leanings of governments in the U.S. and the E.U. and tolerance for labor-related terms among trade partners at a particular point in time. But the direction of travel appears to be towards clearer protections and stronger enforcement. We expect that this will continue and encourage the active integration of worker protection in the context of physical climate risk. Where would agreements and policies that advance climate adaptation matter most for apparel workers in particular? The figure below, produced by the Katalyst Initiative and building on analysis from its 2023 report, Trade Realities: Using Trade Data to Strengthen the Design of Supply Chain Governance, reminds us of the sources of global apparel exports and their respective risk of extreme heat events (Curly et al., 2023)

**Critical Challenges**

* **Most trade provisions have scant environmental provisions:** Labor and environmental standards written into E.U. and U.S. trade policies and agreements tend to be high-level and have left dispute resolution of these issues to consultative bodies or other mechanisms. These mechanisms tend to involve ‘state-to-state’ negotiations, criticized for their slow processes and weak implementation (Buchanan and Chaparro, 2008; Harrison, 2019; Polaski et al., 2022). Lower- and lower-middle income economies including Bangladesh, Cambodia, Kenya and Pakistan are participants in the General System of Preferences (GSP) or the U.S. African Growth and Opportunity Act (AGOA). These systems tie reduced tariffs loosely to compliance with human rights standards, but environmental provisions are scant, and climate impacts are not actively addressed (Zerk and Beacock, 2021). However, the 2020 U.S.-Mexico-Canada Agreement (USMCA) and the forced labor ban in the revised U.S. Tariff Act marked a departure from the hands-off, ‘taking steps’ trade policymaking of the last three decades (USTR, 2021). 31 The USMCA required reforms to Mexican labor relations and a ‘rapid response’ mechanism to resolve complaints involving exporters to the U.S.However, the agreement and the U.S.’s wider ‘worker-centered’ trade policy stop at labor rights reform and do not address working conditions or environmental standards. Extreme heat and its effect on workers were reportedly a topic in consultations between the U.S. and Bahraini governments under the aegis of the trade agreement between the two, but there was no reported outcome
* **The majority of national legal frameworks in Asia are too loose:** Of the four countries surveyed for the Higher Ground? Report, important gaps in the standards persist. Indoor heat standards and extreme heat protocols are vague or missing altogether for apparel workers in Bangladesh, Cambodia and Pakistan. Beyond this, all national legal frameworks clear the low bar of requirements for drinking water. In Pakistan, a longtime industry insider reported that the government does not insist on compliance with its detailed rules for heat management: “Inspectors visit but they do not enforce the law”. What about Vietnam? Measurement and enforcement of its specific indoor temperature standard is left largely in the hands of employers. The government licenses environmental audit firms to record indoor temperatures and certify factory compliance with the law. Gaming of this compliance system is easy. Several interviewees for this analysis reported that certifiers typically record early-morning temperatures. Long-time observers noted that they had never seen a third-party-reported temperature above the 32 °C threshold applied for ‘medium’ work in apparel production.
* **The continued reliance on voluntary regulation:** While voluntary codes of conduct have been refined and improved since their emergence in the apparel industry in the 1990s, most avoid clear standards for climate-related risks and do not significantly improve on existing legal requirements. Most multi-stakeholder assessment regimes used by fashion brands and retailers pair broad statements about worker safety and compliance with local standards such as those discussed above. The U.S. based Fair Labor Association— home to Patagonia, Nike, Adidas, Fast Retailing, U.S. universities and other global brands—is typical. It requires that suppliers to its member brands “provide a safe and healthy workplace setting to prevent accidents and injury to health arising out of, linked with, or occurring in the course of work or as a result of the operation of employers’ facilities. Employers shall adopt responsible measures to mitigate negative impacts that the workplace has on the environment.” (Fair Labor, 2023)

**5.**

* **All:** Treat heat and flood events as health hazards. This means that workers must have paid leave for these events and related illnesses, and the right to stop work, individually and collectively, when their health is endangered without penalty—that is, loss of income. The example of the Malaysian government are more guidance than requirements but, if made mandatory, set basic standards and protocols. These protections obviously require rules for daily collection, reporting and action on temperature and humidity readings in the production areas of factories. ‘Force majeure’ definitions in labor law, in contracts between fashion buyers and manufacturers, and in collective agreements between employers and workers’ organizations should recognize the risk from climate events and make allowances in production schedules, delivery, workers’ emergency leave and income (Dadush, 2022).
* **All:** Develop social protection mechanisms and climate adaptation finance that redistributes costs and risks away from apparel workers. The final element of worker protection in the era of climate change is worker income. The needs of workers that these systems often do not touch—cooler homes and sleep at night, efficient fans and reliable electricity, safe transportation through flooded streets, sufficient drinking water and proper meals—are met by income. For apparel workers, this means living wages and social protection systems. Without them, workers who risk their health, pushing through extreme heat and flooding to keep their jobs and hold onto their incomes, are in effect subsidizing the earnings of their employers, fashion brands and even distant customers. Responses to inadequate social protection systems in apparel industry production centers are outlined in Cornell GLI’s “Learning from Crisis” (Judd et al., 2022).
* **Brands, employers, unions:** Establish binding agreements and foster formal partnerships between brands, manufacturers, unions, governments to address and adapt to climate breakdown. The obvious model for binding collaboration among brands, manufacturers, unions and governments is the Accord on Fire and Building Safety in Bangladesh signed in 2013. It includes obligations for brands and retailers to stay with manufacturers while they make needed safety improvements, and to help with the financing of them. Large-scale public infrastructure to reduce heat and flooding are generally government-led: shading of streets, reflective or ‘cool’ roofs on homes, public drinking-water systems, artificial barriers against flooding, separate sewage systems, and waste-collection.
* **Brands and suppliers**: Explore return on investment (ROI) from adaptation measures and support suppliers to retrofit or relocate nearby in lower risk locations. For example, we show in Report 2 that brands and investors might think about the return on investment (ROI) of adaptation, the steps that might lead to a decision to invest in adaptation, and the possible consequences associated with inaction, or full-scale relocation of suppliers, whether through near- or re-shoring. Adaptation against a 1 meter flood could carry a significantly higher return on investment (ROI) than adaptation against a 2.8 meter flood, because much of the value destruction takes place at the lower inundation level. This not only creates a complexity in the adaptation debate, but it creates elevated risk of stranded assets if brands consider the risks of larger floods altogether too intangible to prepare for or adapt to.
* **Investors**: Engage with apparel companies and their stakeholders to encourage adoption of adaptation measures given the focus to date is almost exclusively mitigation. Proactively analyze physical climate risk impacts within apparel supply chains to understand the potential value at risk. Engage apparel brands to encourage them to publish meaningful disclosures around supply chain workers and climate impacts, including outcomes-based KPIs summarizing efforts to undertake supply chain due diligence and adaptation investments.
* **Governments**: Integrate climate adaptation and worker-rights related factors within trade policies. Enforce meaningful sanctions for violations of indoor heat standards. For labor, health and commerce/trade authorities this includes fines, suspension of production and even the revocation of export licenses. Tighten factory-permitting and climate-hazard planning requirements and practices. New construction and renovation of factories must include designs (and outcomes testing) for active and passive cooling of spaces and people, and defenses against inundation.

**6**. To read the full reports, visit our website here: <https://www.ilr.cornell.edu/global-labor-institute/higher-ground-fashions-climate-breakdown>.