

GREENPEACE



HERE COMES THE SUN

Climate Justice-based
Recommendations for Protecting
Communities from Extreme Heat



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Commission - Victims of Disasters and Calamities Sectoral
Council July 2026

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Greenpeace Philippines and NAPC-VDCSC acknowledge
the assistance of: NAPC Secretary Lope Santos III, Balay
Rehabilitation Center, Sectoral Representative Restituto del
Rosario - NAPC Artisanal Fisherfolk Sectoral Council

Greenpeace Philippines and NAPC-VDCSC are grateful to the
experts, Climate and Health Director Dr. Ronald Law of the
Department of Health and climate scientist Dr. Rosa Perez for
their guidance and expertise in developing this report.

Design, graphs, and data visualizations: Kriselle de Leon

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Published by:
Greenpeace Philippines and
201, JGS Building, 30 Sct. Tuason St, Diliman, Quezon City, 1103
Metro Manila

**National Anti-Poverty Commission - Victims of Disasters and
Calamities Sectoral Council**

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We would also like to acknowledge the wisdom and collaboration of the following frontline artisanal fisherfolks in different communities around the country to whom we dedicate this report to:

Amador Macabutas
Anita Bertuflo
Antonio B. Cornelio Sr.
Armando C. Gonzales Sr
Arnold P. Gorillo
Brent Pelicano
Carlito Matulac
Carmelo O. Masarap
Clement T. Niatg Jr.
Concordia Baldicañas
Corufio B. Replan Jr
Crisanto Villejo
Cristituto Lotion
Cristy G. Fortuna
Darwin Santiago
Edgar Abletes
Elpidio Ignacio
Federeco Pacampara
Gaudencio Diwa
Genesis M. Simoy
Gina M. Astor
Isabelita C. Clavio
Jaylord Gulpan
Jeniffer Arpon
Jeremie M. Panunuro
Joel P. Esperame
Joelito D. Espino
Joemon Desuyo
Jofre M. Dosdos
John Steven Diwa
Jovel Esquierdo
Julita Espino
Junelyn Tizon
Justino D. Espino
Limuel Dorognan
Losanto R. Castillo

Luz Basijan
Marissa C. Fabre
Marlito I. Gorllo
Miralyn N. Tokong
Myrna C. Vallar
Noel P. Esperame
Nora D. Castillo
Pantaleon B. Acuña
Pascual R. Bernardino
Paulino D. Matienzo
Razel Torrechante
Restituto del Rosario
Reymart C. Vallar
Ricky Albarico
Ricky P. Partozx
Robert Abarrondo
Roberto Arpon
Roberto Gonzales Jr.
Rodolfo Abong
Rodolfo C. Rondon
Roger Cabajes
Roger Fabillar
Rolando Sumvilla
Rolly O. Sombilla
Ronilo Dusan
Rosalia D. Baong
Rosemarie Dumas
Rosemarie O. Reyes
Roy Dorognan
Ruben P. Anudonia
Ruperte Dusan
Sally Dequina
Severino R. Garcia
Sonny Jhay Docoro
Teresita Barbo





Table of Contents

Introduction: charting out climate accountability pathways for addressing heat stress	7
Heat Stress in the Philippine Context	10
What is heat stress	19
The Philippine context: Macro- and microeconomic losses	12
Summarizing the heat stress pathway from CIDs to socioeconomic and health outcomes	17
The current policy landscape	20
National frameworks and local devolution of powers in addressing heat stress	20
Sectoral Responses: Education	22
Sectoral Responses: Labor and occupational safety	23
Sectoral Responses: Health	25
Social protection programs linked to extreme heat	26
Other sectoral measures and regulatory interventions to address compound impacts of heat	28
Reactive and anticipatory climate finance mechanisms	30
Gaps in the current policy framework for heat stress	33
The sudden-onset bias in understanding disasters	33
Patchwork approach to heat stress response across sectors	34
Relegation of human impact as secondary	36
Who pays for heat-related damages?	36
Case study: heat stress impacts among fisherfolk	40
Methodology	41
Similarities across areas	42
Experiential variations across the areas	45
Solutions proposed by fisherfolk	46
Discussion of results	50
Recommendations	51
Conclusion: climate justice is a non-negotiable for a sustainable future	57
Works Cited	60

Introduction: charting out climate accountability pathways for addressing heat stress

The nationwide cancellation of classes last 2024 due to extreme heat represented in many ways the new normal in a warming Philippines - a world where class and work disruptions become the norm rather than the exception, and more people become exposed to dangerous levels of heat for longer periods of time. The country is at the forefront of a rapidly warming world, and its effects are felt most by those who have negligible contributions to global greenhouse gas emissions. This asymmetric relationship of contribution and responsibility is the basis of calls for climate justice, which posits that those who have contributed the most to greenhouse gas emissions that lead to adverse climate impacts - oil and gas companies along with other emission-heavy industries - bear the most responsibility to mitigate the effects of climate change. These companies must also concretize this accountability by changing their operations towards phasing out fossil fuels, and providing compensation for those who have little to do with the climate crisis yet bear the most impacts. As climate impacts like extreme heat escalate, so too does the imperative to pursue justice pathways become more urgent, even as governments like the Philippines attempt to address the effects of extreme heat with the limited resources and funding available.

Extreme heat is felt by all, but it is the most vulnerable sectors that suffer compounded impacts, which get transmitted intergenerationally, trapping communities in so-called climate poverty traps. The impacts of extreme heat are far-reaching as they are wide, whose impacts intersect between different human dimensions such as health, education, labor, and even social relations. This makes the impacts of extreme heat and their cascading effects a human rights issue that needs urgent attention. The Philippine Commission on Human Rights in the landmark final report on the National Inquiry on Climate Change identifies this as a key action that the government must take.

But what does this response look like? This report explores how the Philippine government addresses the impacts of extreme heat especially on the most vulnerable communities, by looking at a specific outcome of climate change-driven extreme heat that has clear compounding and cascading impacts on vulnerable populations: physiological heat stress. The report asks: how does the Philippine government address heat stress, and what are the particular policy and discursive gaps that create challenges in addressing heat stress in a holistic manner? This analysis will be complemented by a case study of one of the most vulnerable sectors in the Philippines - fisherfolk - who constantly confront worsening heat-driven conditions and their profound impacts on fisherfolk's livelihood and very bodies.

As the urgency to chart out climate accountability pathways picks up pace with the adoption of the International Court of Justice's Advisory Opinion on the responsibility of states in respect to climate change, the report hopes to lay out heat-related pathways to accountability. This report hopes to make a case for the Philippine government not only to pursue policies to alleviate heat stress holistically. This report also hopes to create the means to which the most vulnerable are given a fighting chance by demanding accountability from those that are most responsible for compounding damages, even for cascading and sometimes hidden impacts of extreme heat on themselves and their communities.



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BANTAY LAWA HEADQUARTER

ANG PROYEKTONG ITO AY SINIMULAN NI **MAYOR BRUNO T. RAMOS**, AT IPINAGPATULOY NI **MAYOR JOSE O. PADRID** AT NG SANGGUNIAN NG BAYAN NG BAE, SA PAKIKIPAGTULUNGAN NG KAPULISAN NG BAE.

Heat Stress in the Philippine Context

What is heat stress?

Heat stress refers to the net heat load experienced by an organism resulting from environmental conditions, metabolic heat production, and physiological constraints, which may exceed the body's capacity to dissipate heat.¹ These environmental conditions range from ambient temperature, humidity level, wind conditions, metabolic processes, and/or intensity of physical exertion, and hydration (or lack thereof), among others.² These are influenced by physical conditions that affect society and the ecosystem, which the Intergovernmental Panel on Climate Change (IPCC) refers to as Climate Impact Drivers (CIDs). In this regard, heat stress emerges as the outcome of the interplay between exposure to these physical drivers with the vulnerability of biological systems. In terms of human impacts, heat stress is the condition that leads to our bodies being unable to thermoregulate because of the marked temperature increases in the environment, and the interaction of those physical drivers to the biophysical fabric of the immediate environment.

In the IPCC's 6th assessment report (AR6), heat-related CIDs see universal increases under moderate ambition to heavy emissions socioeconomic pathway scenarios (SSP1-2.6 - SSP5-8.5). Virtually every place on Earth will feel warmer, more so in specific regions where more often than not, prevailing inequities persist, amplifying the impacts of heat-related extremes. In tropical regions like the Philippines, increases in relative humidity will invariably lead to higher wet bulb globe temperature (WBGT) baselines, pushing liveability to its limit. Populations exposed to extreme heat are projected to go up from 30% right now to up to 76% by the end of the century.³ The IPCC report likewise emphasizes that for the roughly 1oC increase from pre-industrial baselines we are currently feeling, extreme heat events during a 10-year period are 2.8 times more frequent, jumping all the way to 9.4 times more frequent under the high

¹ "Annex II: Glossary," IPCC, n.d., <https://www.ipcc.ch/report/ar6/wg2/chapter/annex-ii/>.

² "Heat Stress Guide | Occupational Safety and Health Administration," n.d., <https://www.osha.gov/emergency-preparedness/guides/heat-stress>.

³ Jeff Turrentine, "IPCC: We Cannot Look Away—Climate Risks Are Cascading," NDRC, February 28, 2022, <https://www.nrdc.org/stories/ipcc-we-cannot-look-away-climate-risks-are-cascading>.

emissions scenario of +4°C warming.⁴ These periods of extreme heat are also more intense, with anywhere between 1.2°C to a mind-boggling 5.1°C hotter. This paints us a stark and terrifying picture of a world heating up to levels that threaten the very integrity of Earth’s biological systems, and the livability of communities especially of those at the frontlines.

These CIDs are numerically computable through indices, which can refer to one or a combination of the 35 CIDs defined in the IPCC AR6 report. These indices are then compounded by global climate patterns such as the El Nino Southern Oscillation (ENSO), or are made worse by sudden-onset events such as heatwaves, or longer duration events such as droughts.

These drivers make it difficult for the body to thermoregulate itself, creating the conditions for heat strain. The human body does a good job of regulating its own temperature relative to his or her environment by managing a delicate balance between gaining heat and losing heat. Our bodies can be likened to engines: As an engine, our bodies gain heat through metabolism, and when there is excess heat being produced, the body regulates itself through sweating. This heat is in turn dissipated through sweat evaporation, convection via the air, and proximity (radiation) to cooler surfaces. Once thermal load increases because of these CIDs, the body’s thermoregulatory capacity is put under stress, and because of the extreme nature of the heat being experienced right now, those capacities are overwhelmed. There are several aspects of this system overload:

1. **Reduced temperature gradient:** under normal circumstances, the body is able to release heat because the ambient temperatures are lower relative to core body temperature. If ambient temperature exceeds skin temperature, the thermal gradient is negative and heat flows from the environment to the body, i.e., heat is gained rather than lost. Due to this thermal stress, the body finds it difficult to shed off heat.⁵
2. **Suppressed evaporation:** because the atmosphere is able to hold more moisture, humidity increases. Because of this, it will take more energy for sweat to evaporate as the surrounding air is already saturated with moisture. Sweat, once it evaporates, has a cooling effect on the body as the evaporation physically transfers heat from the body to the environment. Instead, sweat just rolls off the skin and fails to evaporate, robbing the body of one key mechanism to keep itself cool.⁶

⁴ “Climate Change Widespread, Rapid, and Intensifying – IPCC — IPCC,” IPCC, August 9, 2021, <https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/>.

⁵ Matthew N. Cramer et al., “Human Temperature Regulation Under Heat Stress in Health, Disease, and Injury,” *Physiological Reviews* 102, no. 4 (June 9, 2022): 1907–89, <https://doi.org/10.1152/physrev.00047.2021>.

⁶ Felicity M. Bright et al., “Elevated Humidity Impairs Evaporative Heat Loss and Self-Paced Exercise Performance in the Heat,” *Scandinavian Journal of Medicine and Science in Sports* 35, no. 3 (March 1, 2025): e70041, <https://doi.org/10.1111/sms.70041>.

3. **Higher rate of exposure to solar radiation:** drought conditions are often associated with reduced cloud cover, increasing exposure to solar radiation and surface heating in many regions.⁷ The combination of longer durations of radiation exposure and the sweltering physiological conditions described above adds further stress to the body.
4. **Limited thermal recovery during nighttime:** due to higher mean temperatures, nighttime temperatures which traditionally would be lower and therefore act as thermal breaks are kept high. This reduces the body's chances to recover from extreme daytime temperatures.⁸ In addition, the prolonged exposure to elevated temperatures also raises the risk for various cardiovascular, ischemic, and renal diseases.⁹ This phenomenon has become increasingly more accepted as a determining factor for heat mortality in general,¹⁰ making nighttime heat exposure a critical aspect of heat stress.

The Philippine context: Macro- and microeconomic losses

The Philippines sits in one of the most at risk regions of the world for heat. For the Southeast Asian region, the regional scaling factor is anywhere between 1.0-1.5. This means that for every 1°C of warming, the temperature will spike 1.0-1.5°C on its hottest days. While the average rise in temperature is on par with the rest of the world, the Philippines sees higher temperature baselines.¹¹ This is further compounded by higher humidity levels in the tropics, reducing evaporative cooling efficiency. The Philippine Atmospheric and Geophysical and Astronomical Services Administration (PAGASA) has already said that average mean temperatures have already risen by 0.6°C over the past 30 years alone.¹² Extreme temperatures have likewise become more commonplace because of this combination of increased mean temperatures and climate- and geographically-driven humidity, with PAGASA more regularly putting out

⁷ Simone Speizer et al., "Concentrated and Intensifying Humid Heat Extremes in the IPCC AR6 Regions," *Geophysical Research Letters* 49, no. 5 (February 25, 2022), <https://doi.org/10.1029/2021gl097261>.

⁸ Dominic Royé et al., "Short-term Association Between Hot Nights and Mortality: A Multicountry Analysis in 178 Locations Considering Hourly Ambient Temperature," *Environment International* 203 (August 22, 2025): 109719, <https://doi.org/10.1016/j.envint.2025.109719>.

⁹ Nate Seldenrich, "No Reprieve: Extreme Heat at Night Contributes to Heat Wave Mortality," *Environmental Health Perspectives* 131, no. 7 (July 1, 2023): 74003, <https://doi.org/10.1289/ehp13206>.

¹⁰ World Health Organization: WHO, "Heat and Health," April 28, 2026, <https://www.who.int/news-room/fact-sheets/detail/climate-change-heat-and-health>.

¹¹ "OECD Economic Surveys: Philippines 2026" (OECD, February 12, 2026), https://www.oecd.org/en/publications/oecd-economic-surveys-philippines-2026_f0e0c581-en.html.

¹² Reina Mae B. Chong et al., "Evolving Disaster Resilience in the Philippines: Insights From the 2021 and 2023 World Risk Poll on Socio-economic, Regional, and Systemic Factors," *International Journal of Disaster Risk Reduction* 121 (March 18, 2025): 105415, <https://doi.org/10.1016/j.ijdrr.2025.105415>.

advisories for dangerous heat indices not only during summer months, but also in times of the year that would not normally see elevated temperatures.

Additionally, due to the dense urban buildup in major portions of the country, the Urban Heat Island (UHI) effect plays a major role in amplifying the heat already being felt on the ground. The combination of uneven development, drastic reduction of green spaces and corridors, and the widespread use of impervious materials such as concrete have led to megacities like Manila seeing up to 3C higher temperatures in dense urban settings compared to green spaces.¹³ These are further complicated by events such as El Nino, which compound and worsen the risks that Filipinos feel especially in relation to food security and energy, among others. In a way, the Philippines is a preview of what is to come for a world that needs to deal with increasing heat sooner rather than later.

According to the World Bank, the combined Gross Domestic Product (GDP) loss for climate impacts, is around 7.6% by 2030 and 13.6% by 2040 under a scenario in which the government takes no adaptation measures.¹⁴ Within this figure, heat-related impacts (specifically productivity loss) contribute to GDP loss significantly, second only to sea level rise.¹⁵ At the macroeconomic level, the contribution of heat stress–related impacts to GDP loss is manifested through labor productivity reduction, agriculture and fisheries output decline, and to a certain extent, ecosystem services. Repeatedly, these climate impacts in general create climate poverty traps such as diminished income, assets, and adaptive capacity, leaving households increasingly vulnerable to future climate shocks and less able to break the cycle of poverty and risk.¹⁶

1. **Labor productivity reduction:** While no comprehensive study has quantified actual losses due to heat stress, World Bank-commissioned research projects that 11 million Filipinos could be exposed to extreme heat above 42oC by 2030, rising to 74 million by 2050. This massive exposure of so many Filipinos roughly translates to PHP 466 billion in losses by 2030, going up to PHP 870 billion by 2050 – equivalent to 3-5% of the country’s GDP.¹⁷
2. **Agricultural and fisheries output decline:** in order to understand the impacts of heat stress more holistically, agricultural and fisheries decline

¹³ Ronald C. Estoque, Yuji Murayama, and Soe W. Myint, “Effects of Landscape Composition and Pattern on Land Surface Temperature: An Urban Heat Island Study in the Megacities of Southeast Asia,” *The Science of the Total Environment* 577 (November 7, 2016): 349–59, <https://doi.org/10.1016/j.scitotenv.2016.10.195>.

¹⁴ Lorenza Campagnolo, “Quantifying the Economic Costs of Climate Change Inaction for Asia and the Pacific,” Asian Development Bank, March 20, 2025, <https://www.adb.org/publications/economic-costs-climate-change-inaction>.

¹⁵ Ibid.

¹⁶ Stephane Hallegatte, Marianne Fay, and Edward B. Barbier, “Poverty and Climate Change: Introduction,” *Environment and Development Economics* 23, no. 3 (May 16, 2018): 217–33, <https://doi.org/10.1017/s1355770x18000141>.

¹⁷ “Compounded heat risks,” Climate Change Knowledge Portal, n.d., <https://climateknowledgeportal.worldbank.org/country/philippines/heat-risk>.

must be understood in the context of rising Wet Bulb Globe Temperature (WBGT) indices. This index is the measure of how hot it is under direct sunlight, including all other atmospheric conditions (mean temperature, relative humidity, and wind). Agricultural and fisherfolk are given emphasis here because of the sheer solar load they receive, making them uniquely vulnerable because of their exposure to direct solar radiation. The International Labor Organization (ILO) says that productivity of those receiving significant solar load drops significantly by 50% once WBGT reaches 32°C.¹⁸ This roughly translates to 66-70% of productivity loss in the Southeast Asian region where the Philippines is located, versus the 60% global baseline for agricultural losses due to heat impacts because of the high concentration of the workforce exposed to extreme heat. Actual workforce productivity may vary according to several factors, such as work intensity, acclimatization, hydration status, age and clothing.¹⁹

3. **Degraded ecosystem services and its cascading effects:** Extreme heat also threatens the biological systems that provide livelihood and stimulate economic activity. While heat stress affects these ecosystem services through different pathways compared with physiological heat stress for humans, they ultimately contribute to overall macroeconomic losses. Forests and watersheds provide critical drinking water, mangroves generate coastal services ranging from livelihood support to shoreline protection, and coral reefs support tourism, apart from their essential role in managing fish populations around municipal waters.²⁰ Together, biodiversity contributes an estimated 56% of the country's GDP, underscoring the economic importance of these ecosystems. Additionally, mangrove systems avert up to PHP 104.7 million (USD 1.7 million) worth of damages according to the National Adaptation Plan. As extreme heat degrades these ecosystems, critical nature-based solutions against coastal flooding and sudden-onset events that spawn storm surges are compromised, exposing vulnerable communities to more risks.

At the household or microeconomic level, heat stress contributes through income loss entrenchment, forced expenditure on cooling, and compound health costs, including mental health impacts.

1. **Income loss and poverty entrenchment:** According to the World Bank, climate-induced shocks push up to one million Filipinos below the poverty

¹⁸ "Working on a Warmer Planet: The Effect of Heat Stress on Productivity and Decent Work," International Labour Organization, July 24, 2025, <https://www.ilo.org/publications/major-publications/working-warmer-planet-effect-heat-stress-productivity-and-decent-work>.

¹⁹ Brenda Jacklitch et al., "Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments" (Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, 2016), <https://www.cdc.gov/niosh/publications/numbered/2016-106.html>.

²⁰ Natasha Charmaine A. Tamayo, Jonathan A. Anticamara, and Lilibeth Acosta-Michlik, "National Estimates of Values of Philippine Reefs' Ecosystem Services," *Ecological Economics* 146 (December 19, 2017): 633–44, <https://doi.org/10.1016/j.ecolecon.2017.12.005>.

line.²¹ As climate impacts usually have compounding effects, this drives a feedback loop that keeps poor households trapped in poverty. At the same time, it is the same segment of the population that is forced into greater exposure to extreme heat simply because they have no other means of earning a living. A Philippine Red Cross study across 6 Metro Manila cities found that more than 20% of households rely on outdoor work as their only income source.²² Prolonged climate events such as strong El Nino further deepen poverty by reducing agricultural yields and fish catches. This cycle is exacerbated by debt traps: data from other countries²³ suggest that heat drives up demand for emergency financial services, while simultaneously lessening the ability to pay back the loans because income streams are disrupted, forcing defaults and repayment delinquencies.²⁴ These can lead to unrecoverable debt traps where households are forced to borrow money to pay off existing loans while covering rising household expenses, often at higher interest rates from loan sharks, all while household income remains the same or declines due to heat-related impacts on the livelihoods of the breadwinners.²⁵

2. **Forced expenditure on cooling:** During the dry season, middle-income households are forced to spend an average of PHP 1,500–4,000 more per month because of increased electricity consumption due to air conditioning and other cooling methods.²⁶ Cooling devices also run longer as periods of heat extend into nighttime, and less efficiently due to higher ambient temperatures. These costs are further driven up by supply problems and spot-market price spikes, which themselves are a result of heat-related impacts such as droughts and other external factors such as conflicts. Conditions are even worse for low-income households, which often lack access to more expensive but efficient cooling devices like air conditioning units and live in homes built with materials such as galvanized iron that

²¹ “Development Projects : Philippines Community Resilience Project - P506594,” World Bank, n.d., <https://projects.worldbank.org/en/projects-operations/project-detail/P506594>.

²² “Scorched Future: The Rising Toll of Extreme Heat in the Philippines - PrepareCenter,” PrepareCenter, July 3, 2025, <https://preparecenter.org/story/scorched-future-the-rising-toll-of-extreme-heat-in-the-philippines/>.

²³ “FACT SHEET: The Impact of Climate Change on American Household Finances,” U.S. Department of The Treasury, June 23, 2026, <https://home.treasury.gov/news/press-releases/jy1775>.

²⁴ Shihan Xie, Victoria Wenxin Xie, and Xu Zhang, “Extreme Weather and Low-Income Household Finance: Evidence from Payday Loans” (Consumer Financial Protection Bureau, April 2024), https://files.consumerfinance.gov/f/documents/cfpb_payday-lending-2024-04.pdf.

²⁵ Maria Teresa Alexandra A. Bambico and John Paul C. Vergara, “Characterizing Delinquency and Understanding Repayment Patterns in Philippine Microfinance Loans,” *International Journal of Financial Engineering* 11, no. 03 (September 1, 2024), <https://doi.org/10.1142/s2424786324430011>.

²⁶ “Higher Residential Rates This March 2026,” Meralco, n.d., <https://company.meralco.com.ph/news-and-advisories/higher-residential-rates-march-2026#:~:text=The%20situation%20coincides%20with%20the,appliances%20such%20as%20air%20conditioners>.

make indoor temperatures hotter than outdoors.²⁷ These “inefficiency costs” translate to less productivity and overall less elbow room to spend for cooling, as basic needs take priority in household budgeting.²⁸

3. **Compound health costs:** The physiological impacts of extended heat exposure carry hidden long-term consequences that translate to higher and compounding healthcare costs, especially in a decentralized healthcare landscape like the Philippines, where high-quality care is concentrated in a market-driven, urbanized private sector. Out-of-pocket spending remains the most dominant financing source for healthcare, accounting for 44.4% of all healthcare expenditures.²⁹ As a result, healthcare costs already consume a significant share of household income, with extreme heat further tipping the scales. For low-income households whose breadwinners are exposed on a regular basis, dehydration and heat exhaustion leading to heatstroke remain the biggest threats. To cope, many workers usually quench their thirst by buying carbonated refreshments and *palamig*, and hydrate sometimes with water. While these may provide immediate relief and a temporary energy spike from sugar, the high-fructose corn syrup and phosphates especially from carbonated beverages, combined with inadequate electrolyte replacement and dehydration trigger the fructokinase pathway in the kidneys,³⁰ creating conditions that promote crystal formation. Emerging evidence suggests recurrent dehydration, heat exposure, and high-fructose intake may contribute to Chronic Kidney Disease of nontraditional Origin (CKDu) among vulnerable workers.³¹ This increases medical costs further down the line, and without the necessary government healthcare support, can push households to spend more than 25% of their monthly income to address health concerns - crossing the Catastrophic Health Expenditure (CHE) threshold, reinforcing the cycle of poverty.³²

²⁷ K. P. Landicho and A. C. Blanco, “INTRA-URBAN HEAT ISLAND DETECTION AND TREND CHARACTERIZATION IN METRO MANILA USING SURFACE TEMPERATURES DERIVED FROM MULTI-TEMPORAL LANDSAT DATA,” *the International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences/International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences* XLII-4/W19 (December 23, 2019): 275–82, <https://doi.org/10.5194/isprs-archives-xlii-4-w19-275-2019>.

²⁸ Soma Sarkar, “Heat, Inequality, and the ‘Right to Cool,’” *orfonline.org*, May 27, 2026, <https://www.orfonline.org/expert-speak/heat-inequality-and-the-right-to-cool>.

²⁹ “Briefer - 2023 Philippine National Health Accounts (Pnha) Analysis Report” (Philippine National Health Accounts, n.d.), <https://www.scribd.com/document/888339806/Briefer-2023-Philippine-National-Health-Accounts-Pnha-Analysis-Report#:~:text=While%20total%20health%20spending%20rose,10.2%25%20from%2013.4%25%20in%202022>.

³⁰ Didier Ducloux, “Fructokinase Inhibition to Prevent Kidney Disease,” *Clinical Journal of the American Society of Nephrology* 19, no. 6 (February 13, 2024): 807–9, <https://doi.org/10.2215/cjn.0000000000000442>.

³¹ Carlos a. Roncal Jimenez et al., “Fructokinase Activity Mediates Dehydration-induced Renal Injury,” *Kidney International* 86, no. 2 (December 11, 2013): 294–302, <https://doi.org/10.1038/ki.2013.492>.

³² Abdalla Sirag and Norashidah Mohamed Nor, “Out-of-Pocket Health Expenditure and Poverty: Evidence From a Dynamic Panel Threshold Analysis,” *Healthcare* 9, no. 5 (May 3, 2021): 536, <https://doi.org/10.3390/healthcare9050536>.

4. **Mental health impacts:** Studies have shown a growing correlation between extreme heat exposure and its detrimental impacts on mental health. Elevated body temperatures have been shown to disrupt serotonin metabolism and dopamine production, which directly affects mood stabilization and decision-making.³³ Meta-analyses of hospital and mental institution admissions identify positive correlations between extreme heat exposure to increased suicide rates and mental institution admissions.³⁴ Given that these studies focus largely on global north populations, the additional exposure and risks to populations in tropical settings suggests potentially worse impacts for countries like the Philippines, which has weaker surveillance systems for mental health conditions owing to institutional capacities and cultural mores.³⁵ These intermingle with increased mental distress due to economic stressors, creating a strong connection between extreme heat exposure, financial hardship, and adverse physiological and mental effects.

Summarizing the heat stress pathway from CIDs to socioeconomic and health outcomes

The pathway to heat-related CIDs to physiological heat stress is a complex chain that illustrates how systematic human impacts are a direct outcome of physical drivers, physiological realities, as well as sociocultural and economic systems that produce different levels of exposure and vulnerability. Building a framework that lays out this critical pathway is essential to be able to analyze the nature of state interventions with regard to heat stress, and the gaps in addressing human impacts to heat-related CIDs. We can summarize this pathway via a diagram illustrating the chain from heat-related CIDs to socioeconomic and health outcomes from physiological heat stress.

³³ Mare Lõhmus, “Possible Biological Mechanisms Linking Mental Health and Heat—A Contemplative Review,” *International Journal of Environmental Research and Public Health* 15, no. 7 (July 18, 2018): 1515, <https://doi.org/10.3390/ijerph15071515>.

³⁴ Rhiannon Thompson et al., “Ambient Temperature and Mental Health: A Systematic Review and Meta-analysis,” *The Lancet Planetary Health* 7, no. 7 (July 1, 2023): e580–89, [https://doi.org/10.1016/s2542-5196\(23\)00104-3](https://doi.org/10.1016/s2542-5196(23)00104-3).

³⁵ Villarino Resti Tito et al., “A Systematic Review of Mental Health and Climate Change in the Philippines,” *Asian Journal of Psychiatry* 101 (August 30, 2024): 104191, <https://doi.org/10.1016/j.ajp.2024.104191>.

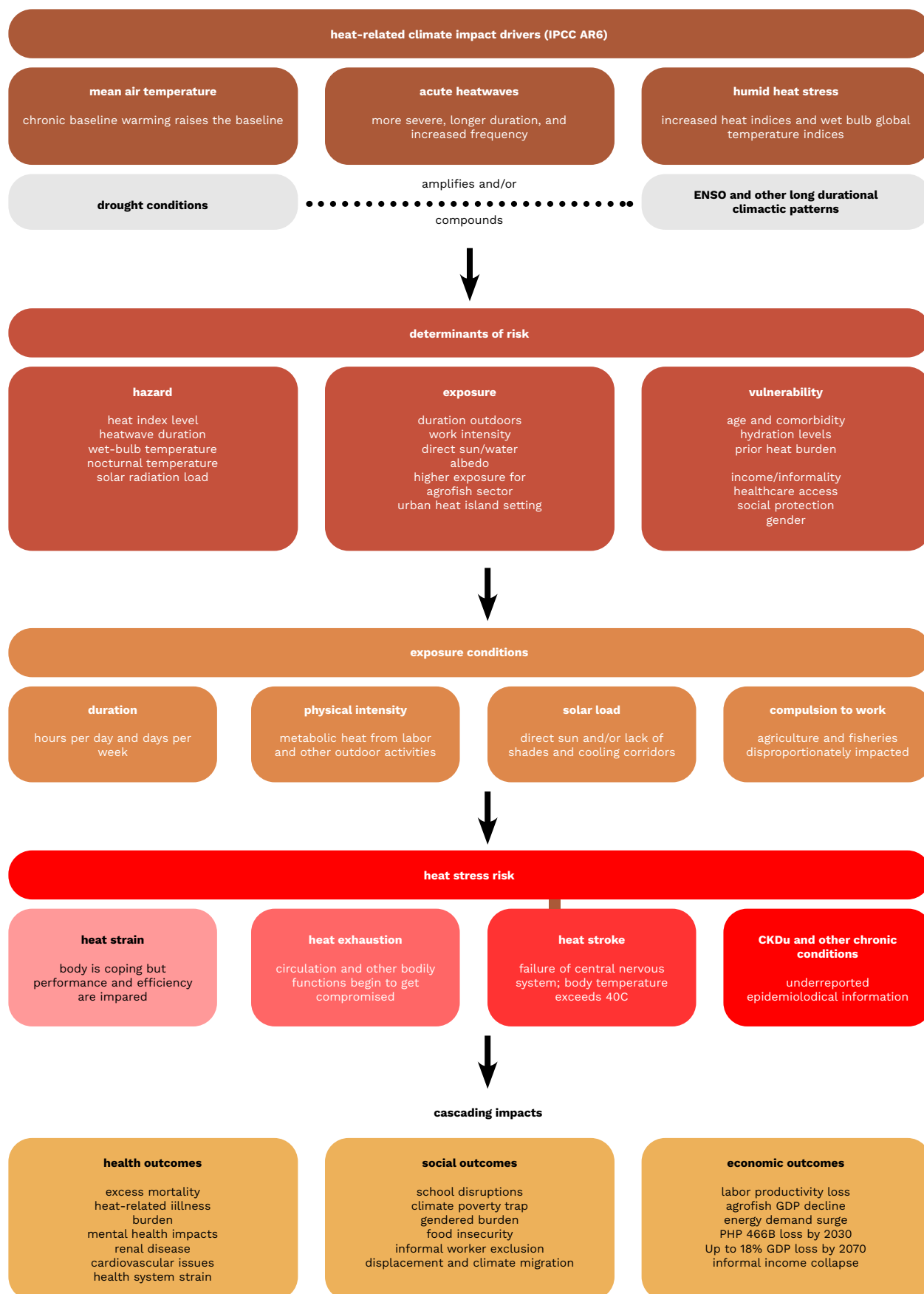


FIGURE 1.

This framework will be the critical filter in analyzing how the Philippine government has so far addressed heat stress. The proceeding analysis will look at the extent by which national frameworks all the way to department orders, advisories, and regulatory guidelines address heat stress as a holistic phenomenon. The following analysis will look at whether government policies address heat stress in relation to its cascading socioeconomic and health outcomes, or whether they address the problem in a piecemeal way. Then it will look at all the heat-related policy pronouncements of the Philippine government, which will reveal patterns of prioritization and gaps in systems thinking that is necessary in addressing heat stress comprehensively.



The current policy landscape

The national climate policy architecture understands climate-induced heat events as part of the broader category of meteorological hazards that need coordinated responses. Despite this, the Philippines currently does not have one overarching policy that addresses heat stress specifically as a holistic phenomenon and an outcome of heat-related CIDs. While this is not explicitly stated as policy, these responses are farmed out to the sectors that heat affects the most, namely: the local government, education, labor and occupational safety, and health. In addition, the government has put forward regulatory guidelines and programs associated with capital markets. Lastly, the government also has programs for social protection that include heat as one of the triggers, as well as other concurrent policies that attempt to address extreme heat's compound impacts especially to the most vulnerable sectors.

National frameworks and local devolution of powers in addressing heat stress

At the national level, the Climate Change Act (RA 9729) sets the tone for the state's framework for climate change mitigation and adaptation and creates the Climate Change Commission (CCC) to coordinate climate action across government. While the law acknowledges the mechanisms by which surface temperatures rise because of greenhouse gas emissions and declares that rising temperatures make the country more vulnerable to climate change impacts, it does not mention heat stress as a specific phenomenon. It is, however, a foundational policy in numerous downstream policy instruments such as the Green Building Code, National Climate Change Action Plan (NCCAP) and its local counterpart the Local Climate Change Action Plan (LCCAP), and the National Adaptation Plan (NAP). These national plans focus less on addressing heat stress itself, but rather look at interventions on the outcome level in relation to human and food security. The NAP takes one step further and identifies interventions related to labor productivity and social protection for the most vulnerable groups. In this sense, the NAP functions as the national blueprint for addressing heat stress.

The country's disaster response architecture addresses heat stress more explicitly through the lenses of disaster response. Although the Philippine Disaster Risk Reduction and Management Act (RA 10121) does not contain the phrase heat stress in the statutory text, it does include as a matter of policy the responsibility of the state to respond to both sudden-onset events such as tropical cyclones, and slow-onset events, which includes heatwaves and the effects of extended periods of drought. The State of Imminent Disaster Act (RA 12287) is the most explicit when it comes to addressing heat stress as a holistic phenomenon, by institutionalizing anticipatory action. Because heat events have a high degree of modelability, this makes the declaration of imminent disaster a critical tool in addressing heat stress. This likewise makes the disaster response framework of the government more holistic, giving equal importance to anticipatory action as rapid and post-disaster response.

Together, these national policies reflect Philippine aspirations for climate action and provide the architecture for implementing the country's commitments under the Paris Agreement. On the global level,

the Nationally-Determined Contributions (NDC) set the emissions reduction targets and declare that adaptation is the overarching priority, despite the NDC being mostly about conditional targets. The prioritization of adaptation within the framework of the Paris Agreement signals opportunities to mobilize climate finance for addressing the effects of heat stress.

The National Disaster Risk Reduction and Response Management Plan (NDRRMP) 2020-2030 which operationalizes RA 10121 treats disaster response within the broad nexus of disaster risk reduction and climate change adaptation, enabling response and proactive adaptation. However, heatwaves and other extreme heat-related phenomena - which are critical drivers to heat stress - are included in the framework only insofar as they are considered

Policy Instrument	Key Provision
RA 9729 (Climate Change Act)	Creates CCC; foundational law, but doesn't name "heat stress" specifically
NCCAP / LCCAP	National and local climate action plans; address heat at outcome level (food/human security)
National Adaptation Plan (NAP)	Closest thing to a national heat-stress blueprint; covers labor productivity & social protection
RA 10121 (PDRRM Act)	Treats heatwaves as slow-onset hydrometeorological hazards, operationalizes RRP-CCAM
RA 12287 (State of Imminent Disaster Act)	Most explicit on heat stress; enables anticipatory funding 3–5 days pre-event
NDC / NDRRMP 2020–2030	International commitments & disaster-response operationalization

macro-level events, that is to say, hydro-meteorological hazards and slow-onset phenomena. Although not a policy instrument per se, PAGASA's heat index warnings serve as the scientific basis for many department-level policies and memoranda, with the warnings serving as basis for specific triggers such as class suspensions and work pauses.

Local governments likewise function as the frontliners for policy implementation. Both RA 10121 and 9729 require that disaster risk reduction be integrated with climate change adaptation, through local blueprints such as the LCCAP, and through resource mobilization for disaster response. Initially coming from a minimum 5% calamity fund allocation mandated by the Local Government Code (RA 7160), this was expanded in RA 10121 by further indicating the fund allocations to cover 70% for mitigation and preparedness projects, and 30% for rapid deployment as quick response funds. Resource mobilization would be given further anticipatory access in RA 12287, enhancing local government capacities on paper by giving them access to funds 3-5 days before the onset of an extreme weather event.

Sectoral Responses: Education

One of the most visible disruptions due to heat is found in the education sector, with recent years having more lost teaching days than ever before. In the school year 2023-2024 alone - the same year as a moderate El Nino - a total of 53 teaching days were lost due to general disruptions and holidays. Of those 53 days, 22-24 were lost solely due to heat-related disruptions, forcing learners to shift towards Alternative Delivery Modes (ADM).³⁶ It was also during that school year when the Department of Education (DepEd) mandated the nationwide suspension of classes due to heat extremes - for the first time in Philippine history.

Education sector responses have rapidly evolved to adjust to the growing unpredictability of extreme heat. Structurally, RA 10121 sets the mandate for line agencies to respond to meteorological hazards, giving DepEd the legal authority to use extreme heat as basis for class suspensions and disruptions. This was crystallized in DepEd Order No. 037 series 2022 which set guidelines for class cancellations during natural disasters and power interruptions, but left out extreme heat or heatwaves as a specific trigger. The aforementioned 2023-2024 El Nino season, which triggered DepEd's first nationwide class cancellation, led to DepEd Order No. 022 series 2024, which not only included extreme heat in the categorization of class cancellation triggers, but also set out the next steps in case classes get cancelled with the institutionalization of ADMs through mandating the Learning and Service Continuity Plan. The

³⁶ Raphael Bosano, "A Month of Teaching Days Lost Due to Extreme Heat, Other Calamities: Study | ABS-CBN News," ABS-CBN, October 25, 2024, <https://www.abs-cbn.com/news/2024/6/28/a-month-of-teaching-days-lost-due-to-extreme-heat-other-calamities-study-1752>.

Commission on Higher Education (CHED) has no equivalent policy for heat-related class cancellations unlike for tropical cyclones, and instead leaves such decisions to Higher Education Institutions.

More broadly, DepEd has struggled with balancing learning needs with the realities of climate extremes. The COVID-19 pandemic made distance learning a necessity, with DepEd Order No. 066 series 2021 allowing the shift to distance learning in response to external disruptions. This was expanded through DepEd OASOPS No. 2023-077, which included extreme heat as a trigger and empowered school heads to switch to distance learning without central office approval. School heads were further tasked with monitoring

heat impacts through reports being submitted to a portal by Friday noontime, under Joint Memorandum OM-OSEC-OUPS-2025-01-01456. These policies were consolidated through the release of the most recent DepEd Order No. 14 series 2026, with the introduction of a tier-based response mechanism called Levels-Based Learning Continuity Framework, providing protocols for prolonged climatological impacts, and determining when to call off classes.

Managing operational continuity and minimizing the impact of disruptions remain the key interventions in the educational sector. Beyond these measures, Order 066 s. 2021 also introduced other interventions such as standards to manage heat inside classrooms including the number of electric fans, building insulation, and reflective paint. In this regard, while education sector interventions address the impacts of heat stress on primary and secondary education learners and teachers, they remain limited mostly to operational matters rather than a broad strategic approach.

Policy Instrument	Key Provision
DepEd Order 037 s.2022	Class suspension guidelines (initially excluded heat)
DepEd Order 022 s.2024	Added extreme heat as a class cancellation trigger
DepEd OASOPS 2023-077	Empowers school heads to shift to distance learning
DepEd Order 14 s.2026	Tiered "Levels-Based Learning Continuity Framework"
DepEd Order 066 s.2021	Classroom heat infrastructure: fans, insulation, reflective paint

Sectoral Responses: Labor and occupational safety

Workers, especially those exposed to extreme temperatures for long periods, are especially vulnerable to the effects of heat stress. The foundational statutory law that codifies formal sector labor occupational safety and health is Republic Act 11058, or the Occupational Safety and Health (OSH) Act. The law enshrines the worker's right to refuse unsafe working conditions, or conditions that pose an imminent danger to the worker's health and life. Its

implementing rules and regulations were established through Department Order No. 198-18, which enforced strict compliance with occupational safety standards and reporting for businesses. This was expanded and superseded by Department Order (DO) No. 252-25, which significantly expanded the scope of the OSH law by integrating universal health care, extended the coverage of the law to workers with flexible work arrangements (work from home, co-working spaces, etc.), and classified commercial fishing (and thus aligning the OSH law with the Fisheries Code of 1998 [RA 8550], and amended by Republic Act 10654), mechanized farming, and green technology as “high risk” sectors. Lastly, the DO also sets the conditions for which an employer is committing “willful

violation” if they fail to address safety risks after inspections, imposing fines of up to PHP 100,000 a day until the hazard is resolved. For public sector workers, the Civil Service Commission Memorandum Circular No. 06 series 2024 contains the measures by which local chief executives and agency heads can mandate flexible work arrangements due to, among others, “the effects of climate change.” While these policy frameworks define the scope of occupational safety in the broad sense, none mention heat stress or heat-related risks.

To help enforce the OSH law, the Department of Labor and Employment has published the Occupational Safety and Health Standards. Under Rule 1070, the standards articulate what should be the acceptable physical and atmospheric conditions of workplaces in the Philippines. Among the most direct labor-related interventions with regard to heat stress are rule 1074, which specifically identifies the thermal limits (via WBGT) to which a worker should be exposed, and the respective interventions that are associated with mitigating the risk, such as rotational shifts and rule 1076, which outlines guidelines for acceptable ventilation and comfort in workplaces. Taken together, they constitute the most holistic guidelines that address heat stress systematically, albeit limited to the private sector.

These rules are operationalized through the different labor advisories that provide guidelines for the following: work suspensions in order to prioritize worker safety (Labor Advisory No. 17 series 2022), guidance to address dry season interventions to mitigate the risks around heat stress (Labor Advisory No. 08 series 2023), and directives requiring hazard and risk assessment

Policy Instrument	Key Provision
RA 11058 (OSH Act)	Worker's right to refuse unsafe heat conditions
DO 198-18 / DO 252-25	IRR of OSH Act; expanded high-risk sector coverage (fishing, farming, green tech)
OSH Standards Rules 1070/1074/1076	WBGT thermal limits, rotational shifts, ventilation standards
Labor Advisory 17-2022 / 08-2023	Work suspension & dry-season heat risk guidance

frameworks for private workplaces facing “imminent danger arising from disruptive events.” Collectively, these advisories form the most comprehensive implementing tools for addressing private-sector workplace heat stress.

Sectoral Responses: Health

Given the massive risk exposure that extreme heat brings to both the health of Filipinos and the healthcare system as a whole, national policy frameworks identify health and the national healthcare system as key strategic priorities in addressing climate-induced heat.

Drawing from the national frameworks on DRR-CAA (both RA 9729 and RA 10121) and OSH mentioned above, the Department of Health (DOH) has set the long-term strategy with regard to addressing climate change impacts through the DOH Health and Climate Change Roadmap 2025-2050. The department’s adoption of the Alliance for Transformative Action on Climate and Health (ATACH) from COP26, and subsequently the bilateral pact between the CCC and DOH enacted in 2024,³⁷ became the operational basis in implementing the long-term strategy, with the Health and Climate Change Office (HCCO) being established in 2025 through Department Memorandum No. 2025-0114 as the lead implementor and coordinator of the roadmap.

Anchored on the two domains of increasing the resilience and sustainability of the healthcare sector, the roadmap marks the most comprehensive health-sector strategy for addressing heat stress. By identifying heat stress as a climate-related systemic risk rather than a seasonal concern, the strategy aligns closely with adaptation priorities of the NAP.

The roadmap updates the guidelines set in Administrative Order 2019-0046 by capacitating healthcare professionals both on the hospital- and the barangay-level to identify and manage heat-related illnesses. It also enhances disease surveillance, and strengthens systems set by past administrative orders (AO 2007-0036) by integrating heat illness reporting with PAGASA heat index forecasts in the notification pipeline of the Philippine Integrated Disease

Policy Instrument	Key Provision
DOH Health & Climate Change Roadmap 2025–2050	Long-term sectoral strategy; most comprehensive heat-stress framework
DM 2025-0114	Establishes Health and Climate Change Office (HCCO)
PIDSR integration	Links heat-illness reporting with PAGASA heat index forecasts

³⁷ “CCC, DOH to Strengthen Collaboration on Climate Change and Health,” n.d., <https://climate.gov.ph/news/845#:~:text=The%20CCC%20and%20DOH’s%20commitment,to%20addressing%20climate%2Drelated%20challenges.>

Surveillance and Response (PIDSR). Additionally, the roadmap also calls for updated vulnerability mapping in coordination with PAGASA.

The roadmap further prioritizes increasing mitigation and adaptation capacities in healthcare centers, as well as service continuity in the event of climate shocks. Stating the need for heat-proofing buildings, mobile units, and backup power for temperature-sensitive hospital materials, the roadmap frames heat stress as both a public health concern and a healthcare service continuity issue.

Lastly, the roadmap emphasizes community engagement through sustained public information and education campaigns and local knowledge integration. This can potentially look like heat action plans, locally-sensitive public communications on health risks, and using local knowledge and intangible cultural heritage elements to contribute to vulnerability assessments and mapping. This prioritization is anchored on increasing access through the Universal Health Care law (RA 11223).

While the roadmap is still in its infancy and dependent on sustained financing, the 2025-2050 strategy sets the standard for other line agencies for integrating heat stress into sectoral climate adaptation planning.

Beyond the overarching roadmap, DOH utilizes several regulatory and operational policies. Through the Health Facilities and Services Regulatory Bureau (HFSRB), the Green and Safe Health Facilities Guidelines³⁸ function as a binding structural policy framework, establishing specific licensing and operational criteria for cooling efficiency, water sanitation, and mechanical ventilation resilience within medical institutions. Regionally, the Disaster Risk Reduction and Management for Health (DRRM-H) policy requires that municipal and provincial health offices to maintain localized emergency response plans that increasingly account for climate variables as risk modifiers that trigger proactive medical protocols for heat-related illnesses, vector-borne surges, and waterborne disease outbreaks.³⁹ Complementing these are the Health Alert and Warning Systems (HAWS) and clinical practice guidelines managed by public health surveillance bodies, which support risk communication, as well as the early detection, reporting, and management of heat-related illnesses within local communities.

Social protection programs linked to extreme heat

Safeguarding livelihoods with social protection is one of the pillars of the

³⁸ Ronald Law, “Harping on Heat and Health,” *INQUIRER.Net*, March 24, 2025, <https://opinion.inquirer.net/181836/harping-on-heat-and-health>.

³⁹ Philippine Daily Inquirer, “Preparing for El Niño: The Heat Is on and Our Health Is at Risk | Inquirer Opinion,” *INQUIRER.net*, May 15, 2023, <https://opinion.inquirer.net/163137/preparing-for-el-nino-the-heat-is-on-and-our-health-is-at-risk>.

NAP, which recognizes that climate change impacts are cross-cutting, compounding, and disproportionately affect the most vulnerable. This is actualized through the integration of climate change adaptation strategies into government social programs. The Pantawid Pamilyang Pilipino Program (4Ps) Act (RA 11310) serves as the cornerstone of the government's social protection system while Department of Social Welfare and Development (DSWD) Memorandum Circular No. 3 series 2025 formalizes Adaptive Social Protection and shock-responsive approaches across programs, including the 4Ps and the department's Sustainable Livelihood Program.

Under the 4Ps, DSWD has overseen reactive emergency cash transfers (ECT) for beneficiaries affected by dry spells. One recent example is the distribution of over PHP 350 million in ECT assistance to 34,590 corn farmers.⁴⁰ To soften the shocks of lost income due to heat, DSWD has also implemented the Walang Gutom Food Voucher program, which has so far disbursed PHP 3,000 in monthly food credits to more than 600,000 families.⁴¹

For longer-term interventions, the government has employed anticipatory and cash-for-work programs such as Project LAWA (Local Adaptation to Water Access) and Project BINHI (Breaking Insufficiency through Nutritious Harvest for the Impoverished). These initiatives train communities to build small farm reservoirs for localized water access while they're learning organic and diversified integrated farming systems.⁴² The programs are currently being implemented across 71 vulnerable provinces, benefitting around 120,000 families.

Policy Instrument	Key Provision
RA 11291 (Magna Carta of the Poor)	Legal guarantee for right to the highest attainable standard of health for the poor
RA 11310 (4Ps Act)	Cornerstone social protection program
DSWD MC 3 s.2025	Formalizes Adaptive Social Protection / shock-responsiveness
Walang Gutom Food Voucher	PHP 3,000 monthly food credits to 600,000+ families
Project LAWA / Project BINHI	Anticipatory, cash-for-work water & farming resilience programs

⁴⁰ "DSWD's Cagayan Valley Office Releases Over Php350-M Emergency Cash Aid to Isabela Corn Farmers Hit by Dry Spell – DSWD," May 13, 2026, <https://www.dswd.gov.ph/dswds-cagayan-valley-office-releases-over-php350-m-emergency-cash-aid-to-isabela-corn-farmers-hit-by-dry-spell/>.

⁴¹ "DSWD's Walang Gutom Program Reaches 600,000 Beneficiaries in 2nd Year Rollout – DSWD," February 13, 2026, <https://www.dswd.gov.ph/dswds-walang-gutom-program-reaches-600000-beneficiaries-in-2nd-year-rollout/>.

⁴² "DSWD Combats Drought, Climate Change Impact Thru Project LAWA at BINHI; 120,000 Families Nationwide to Benefit From Program – DSWD," June 1, 2026, <https://www.dswd.gov.ph/dswd-combats-drought-climate-change-impact-thru-project-lawa-at-binhi-120000-families-nationwide-to-benefit-from-program/>.

Other sectoral measures and regulatory interventions to address compound impacts of heat

A range of national policies and programs attempts to address the intersectional and compound effects of extreme heat, which act as vulnerability multipliers. These policies span supply chain management for vulnerable goods, financial regulation, and other guidelines that aim to alleviate the impacts of extreme heat through the built surroundings.

Agricultural and fisheries supply chains are uniquely vulnerable to the effects of extreme heat due to spoilage and product devaluation, with cascading impacts on food security and nutrition. In this regard, keeping the produce fresh and securing the supply chain becomes a top concern. Existing policy frameworks that deal with storage and food safety, though they do not explicitly identify climate-driven extreme heat as their basis. The Agriculture and Fisheries Modernization Act (AFMA) of 1997 (RA 8435) serves as the policy backbone for state-funded post-harvest infrastructure, including cold storage to stave off spoilage, shortening the supply chain through infrastructure, and vending centers to facilitate the buying and selling of produce. The Agriculture and Fisheries Mechanization Act (AFMech) of 2012 (RA 10601) likewise supports tech-driven solutions to limit spoilage. These are complemented by the Department of Agriculture’s (DA) Administrative Order No. 23 series 2013, which establishes the mandatory framework for fisheries cold chains and storage, and the Bureau of Fisheries and Aquatic Resources (BFAR) Fisheries Administrative Order (FAO) No. 210, which regulates the transport of fish catch.

Programmatically, the Climate Resilient Agriculture Office (DA-CRAO) was created via the DA Memorandum Circular No. 4 series 2020 to provide technical, administrative, and research oversight for scaling up Adaptation and Mitigation Initiatives in Agriculture (AMIA) villages, and integrating climate risk vulnerability assessments into all agricultural supply chain planning.

The financial sector, on the other hand, is guided primarily by the Philippine Sustainable Finance Roadmap, which treats extreme heat as one of several physical climate risks investors face. Bangko Sentral ng Pilipinas’s (BSP) Circular No. 1085 establishes the sustainable finance framework for banks, where “temperature extremes” is mentioned as risks that need to be factored in sustainability principles. BSP Circular No. 1128 further elaborates on Circular 1085 through the Environmental and Social Risk Management System, which functions as an overarching reporting framework that categorizes credit risks.

In corporate governance, the Securities and Exchange Commission (SEC) Memorandum Circular No. 16 series 2025 requires publicly-listed and large non-listed companies to undertake sustainability reporting. Aside from mandatory scope-1 and scope-2 emissions disclosures, companies are also required to disclose acute and chronic physical climate risks, including extreme heat and heat stress.

In terms of building regulation, the Philippine Green Building Code (PGBC) and the Department of Human Settlements and Urban Development (DHSUD) Resilient Urban Design Guidelines provide the country's primary regulatory framework for mitigating heat stress. The PGBC operates at the structural scale, utilizing thermodynamic principles to limit indoor heat gain by mandating passive cooling standards, such as a minimum Solar Reflectance Index (SRI) of 70 for metal roofs and natural ventilation openings equal to at least 10% of a room's floor area. Conversely, DHSUD's guidelines operate at the spatial and municipal scale, advocating for nature-based solutions (NbS) and ecosystem-based adaptation to combat the Urban Heat Island (UHI) effect. Through frameworks like the Resilient Green Human Settlements Framework and the Building Climate Resiliency Through Urban Plans and Designs (BCRUPD), Local Government Units (LGUs) are guided to integrate climate-responsive roads and pathways, permeable pavements, and continuous urban greenbelts into their zoning ordinances, to systematically lower ambient land surface temperatures across high-density urban landscapes.

Infrastructure sector

Policy Instrument	Key Provision
Green Building Code	main reference document for green and climate-responsive construction
DHSUD Resilient Urban Design and Development Guidelines	construction materials and ventilation calibrated for heat

Social protection policies and programs

Policy Instrument	Key Provision
RA 11291 (Magna Carta of the Poor)	Legal guarantee for right to the highest attainable standard of health for the poor
RA 11310 (4Ps Act)	Cornerstone social protection program
DSWD MC 3 s.2025	Formalizes Adaptive Social Protection / shock-responsiveness
Walang Gutom Food Voucher	PHP 3,000 monthly food credits to 600,000+ families
Project LAWA / Project BINHI	Anticipatory, cash-for-work water & farming resilience programs

Supply chain management and security

Policy Instrument	Key Provision
RA 8435 (AFMA)	Cold storage & post-harvest infrastructure funding
RA 10601 (AFMech)	Tech-driven supply chain solutions to limit spoilage
DA AO 23 s.2013 / BFAR FAO 210	Cold chain mandates; fish catch transport rules
DA-CRAO (MC 4 s.2020)	Oversees AMIA villages, climate risk assessments

Regulatory interventions

Policy Instrument	Key Provision
BSP Circular 1085 / 1128	Sustainable finance framework; ESG risk management for banks
SEC MC 16 s.2025	Mandatory sustainability/physical climate risk reporting

Reactive and anticipatory climate finance mechanisms

Given that extreme heat can manifest as both a sudden-onset event and a long-term hazard, the government provides financial safety nets through highly-concessional and/or interest-free loan facilities, as well as anticipatory financing for programs that increase adaptive capacity and recovery from heat-related impacts.

Government-owned and controlled corporations such as the Social Security System (SSS) and Pag-Ibig Fund offer calamity loan facilities that become upon the declaration of a state of calamity. While these facilities now include El Nino and La Nina as triggers for loan access, the slow-onset and compounding nature of the impacts of heat make them less accessible for heat stress alone.

Recently, the Philippine Crop Insurance Corporation (PCIC), together with BFAR, Rare and Willis launched the Philippines' first ever index-based parametric insurance facility for smallholders. Introduced in 2025, the program provides automatic payouts once certain satellite-based environmental thresholds are reached. Its rollout covers 14,000 fisherfolk across 24 coastal communities,

with payouts of USD 100 payouts per policy cycle.⁴³ Currently, payouts are only triggered by thresholds related to wind speed, sea state, and rainfall that prevent fishing activities.⁴⁴

At the programmatic level, the People's Survival Fund serves as the country's funding facility for local government units to aid in building defense against extreme and long-durational thermal shifts, as well as projects that cover adaptation within the agrofish industry. Internationally, the Philippine government may also access the global loss and damage fund by submitting proposals for consideration by the global loss and damage fund board.

Policy Instrument	Key Provision
SSS / Pag-IBIG calamity loans	Triggered by state of calamity declaration
PCIC parametric insurance	Payouts for fisherfolk — currently triggered by wind/sea state, not heat
People's Survival Fund (PSF)	LGU funding facility for adaptation projects
Loss and Damage Fund	International funding access channel

⁴³ Fintech News Philippines, "Philippines Launches First Parametric Insurance for 14,200 Filipino Fishers," November 17, 2025, <https://fintechnews.ph/68946/insurtech/philippines-launches-parametric-insurance-small-scale-fishers/#:~:text=The%20Ocean%20Risk%20and%20Resilience,fishers%20across%2024%20coastal%20municipalities.>

⁴⁴ Agar Wal Ekwensi, "Subsistence Fisherfolk to Be Enrolled in Insurance Plan Offering Quick Payouts," BusinessWorld Online, November 12, 2025, <https://bworldonline.com/economy/2025/11/12/711866/subsistence-fisherfolk-to-be-enrolled-in-insurance-plan-offering-quick-payouts/>.



Gaps in the current policy framework for heat stress

The Philippines possesses a complex, sectorally-distributed - if not siloed - disaster response and climate financing policy architecture related to heat stress. Despite integrating disaster risk reduction with climate change adaptation in key national policy frameworks, and recognizing extreme temperatures as a priority for sectoral responses, there remains critical gaps in treating heat stress as a holistic phenomenon requiring responses rooted in climate justice. These gaps are rooted in particular ways of governance and dominant understandings of climate change and disasters. While recent policy instruments, such as the NAP and RA 12287, have begun recognizing slow-onset and compounding climate risks, operational mechanisms remain largely influenced by disaster-response paradigms designed for sudden-onset hazards. As a result, chronic and cumulative impacts such as heat stress are often inadequately captured by existing planning, monitoring, and response systems.

The sudden-onset bias in understanding disasters

The policies addressing climate-induced heat reveal two discursive assumptions : that (1) disasters are still understood primarily as sudden-onset events, and (2) even slow-onset and compounding events are seen through a sudden-onset lens.

Firstly, there is a noticeable bias towards sudden-onset and macro-scale disasters such as typhoons and flash floods as the model on what constitutes a disaster. This is not necessarily the fault of policymakers; other than being nominally easier to identify, these are the disasters most Filipinos experience as “shocks,” leaving more lasting imprints on public consciousness and on policymakers. This cultural baggage has far-reaching implications in national and local policy. This is seen in RA 10121 and the NDRRMP where heat-related impacts are mentioned but are categorized under macro-meteorological impacts. Even RA 12287, while championing anticipatory action, relies primarily on event-based triggers. Although necessary for operational decision-making, these mechanisms may not fully capture cumulative exposure, chronic heat burden, and compounding vulnerabilities associated with prolonged heat

stress. Similarly, the parametric insurance program relies mainly on typhoon-related triggers for payouts.

Secondly, even policies that incorporate extreme heat often assume that its effects will eventually disappear and will return to normal. This is reflected in the stand-down design of heat index triggers and respective sectoral responses. Once warnings are lifted, operations are expected to return to normal. This is shown by DepEd's cascade of orders, where extreme heat is treated more like an interruption than a compounding reality. Likewise, ECT are typically disbursed only after farmers have lost their income due to heat impacts. This reflects an assumption that extreme heat is something that requires interventions that tackle the most immediate or visible losses, much like how post-typhoon aid is given.

A deeper gap is that the policy architecture, at least on the operational and sectoral level, still assumes a linear relationship between rising average temperatures and the frequency and severity of extreme weather. Although the NAP is using the more updated socioeconomic pathways model (specifically, SSP 5-8.5, or the heavy emissions scenario), and PAGASA has updated its climate projections using CMIP-6 models based on SSP scenarios,⁴⁵ these have not consistently translated into sectoral action. Differences in the use of SSP-based and RCP-based climate projections across institutions may create inconsistencies in planning assumptions, risk communication, and sectoral adaptation strategies. While both approaches remain scientifically valid and continue to be used internationally, greater harmonization of climate scenarios would strengthen policy coherence across agencies.

Patchwork approach to heat stress response across sectors

Despite alignment with international models on the national framework level, sectoral responses remain fragmented. As mentioned above, while the NAP uses SSP modeling, this has not cascaded effectively to the sectoral level. While socioeconomic pathways are laid out on the framework level, there has been no proper mechanism by which to calibrate the socioeconomic pathways in relation to the sectors that respond to extreme heat. In fact, it is not just grounding SSPs that is a problem; in a Commission on Audit (COA) report on the NCCAP in 2024, auditors found significant implementation gaps and structural misalignment between the NCCAP and the different government agencies and local government units.⁴⁶ This NAP itself acknowledges weak inter-agency cooperation and identifies the clarification of roles, responsibilities, and institutional arrangements as an implementation priority.

⁴⁵ "PAGASA," n.d., <https://www.pagasa.dost.gov.ph/press-release/153>.

⁴⁶ "Performance Audit Reports - National Climate Change Action Plan" (Commission on Audit, 2024), <https://www.coa.gov.ph/reports/performance-audit-reports/2024-2/nccap-2/>.

This structural failure reflects not only the lack of institutional transfer of technical capacities, but also critical limitations in how government agencies collaborate and synergize. This further solidifies the claim that the strength of national frameworks does not automatically translate into effective implementation.

The implications in addressing heat stress are significant. Critical years that would have otherwise been used to build workable datasets were wasted, forcing sectoral agencies to create metrics for themselves, reinforcing siloed approaches instead of a holistic response. This explains why, for instance, DOH only logged 513 heat-related cases in 2023, according to their surveillance system. While DOH's system probably logs conditions that have been exacerbated by prolonged extreme heat exposure more and not cases triggered specifically by heat, the lack of guidance from national frameworks despite the presence of national blueprints like the NCCAP has forced DOH to rely on its then-current disease surveillance architecture. The planned integration of heat-related integrated illnesses into the PIDSR is therefore a welcome development, although implementation remains pending. This is nonetheless a big leap considering that heat-related illness is widely recognized as underreported globally, with cardiovascular disease, kidney disease, respiratory complications, and mental health conditions often recorded under their immediate medical causes rather than being attributed to heat exposure. Consequently, official heat-related illness statistics may underestimate the true burden of heat stress on public health.

This siloed way of working is also evident in the OSH guidelines, where the metrics used to respond to heat stress are confined only to how PAGASA approaches heat index warnings, and apply only to the formal workforce, despite many outdoor workers being employed in the informal economy. Legislative measures such as the Magna Carta of Workers in the Informal Economy (House Bill 3138) aim to address this gap by providing the necessary legal and policy frameworks that will allow for greater social protection of informal workers, including those vulnerable to extreme heat.

Beyond institutional fragmentation, a major challenge lies is the absence of interoperable heat-related datasets. Climate information, health surveillance, labor productivity, education disruptions, and livelihood impacts are often collected through separate systems that rarely communicate with one another. Strengthening data interoperability would show a more comprehensive picture of the cascading impacts of heat stress and support more integrated adaptation planning.

Relegation of human impact as secondary

The patchwork and siloed approach to addressing climate-induced heat also reveals a deeper assumption: the prioritization of business and/or service continuity over addressing compounding human impacts of extreme heat. While maintaining essential services is important, it should not come at the cost of neglecting the people whose health and wellbeing ultimately sustain those services. Ironically, ignoring these human impacts will have a profound impact on the efficiency of the delivery of basic goods and services in the long term.

Beyond the DepEd policies already mentioned above, only DepEd policy Order 066 series 2021 directly addresses classroom comfort and ventilation to ease heat stress for students and teachers. Additionally, policies covering supply chain continuity in the agrofish sector also use market-based metrics to ensure that produce does not spoil even during high-heat seasons. While these are definitely important, there is no equivalent policy even from other agencies that also addresses the human impacts of heat stress for others within the supply chain. This includes not only farmers and fisherfolk, who have to toil extra hours fully exposed to extreme heat as climate impacts reduce productivity, but also market vendors - many of whom are family members, particularly wives, who help sustain livelihoods while working in similarly harsh conditions.

Beyond physical health and economic productivity, chronic heat exposure is increasingly associated with anxiety, sleep disruption, cognitive fatigue, depression, and psychosocial stress. These impacts disproportionately affect vulnerable populations with limited access to cooling, healthcare, and social protection, yet remain largely absent from current policy responses.

At the end of the day, the government can only count what is institutionally visible. Until there are measures that provide both recognition and social protection to those that remain invisible to the government, non-economic human impacts especially from the informal sectors will continue to be overlooked, leaving the country's policy architecture incomplete.

Who pays for heat-related damages?

Repeated exposure to heat stress may contribute to what development literature describes as a climate poverty trap. In such situations, declining productivity, increased healthcare costs, livelihood disruptions, and rising adaptation expenditures progressively erode household assets and adaptive capacity. This leaves vulnerable households increasingly exposed to future heat-related shocks, creating a self-reinforcing cycle of poverty and climate vulnerability.

Interlocking all the issues is the question of how much it will cost to comprehensively address heat stress. According to the Global Commission on Adaptation, every dollar spent for adaptation can avert 2-10 dollars in losses.⁴⁷ Roughly adjusted for the Philippines, where the Growth Gateway Program estimates around GBP 7 billion in losses from extreme heat alone,⁴⁸ this translates to roughly GBP 700 million (PHP 57 billion) to GBP 3.5 billion (PHP 285 billion). Currently, the Philippines spends an average of 1.7% of its GDP for adaptation and resilience measures, but has recently scaled back on its adaptation spending from PHP 1.2 trillion to PHP 844 billion.⁴⁹ These numbers paint a bleak picture of adaptation finance in the Philippines and expose a disconnect between the ambitions of the NAP, and the financial realities of making it happen.

Where the money comes from is also at issue: of the USD 72 billion financing needed to implement the NDCs, only 2.7% is covered by public financing. The large chunk of private financing is exactly what the sustainable finance instruments above capacitate, but these frameworks cover mostly mitigation-related projects. The main reason why mitigation is the preferred climate action pathway for private entities is that it offers more direct return on investments, whereas adaptation spending generates mostly public goods - improved safety, well-being, and survivability. The Philippine Institute for Development Studies (PIDS) has likewise flagged that much of the country's public financing for climate action consists of loans, risking further financial exposure in the future.⁵⁰ Likewise, the preferred financial pathway of the Philippine government with big-ticket infrastructure development for adaptation has been through partnerships with the private sector. But as the flood control corruption scandals last year have shown, these arrangements breed opportunities for graft and corruption, and foster a culture of patronage that undermines the adaptive capacities of communities.

Another point worth making is that adaptation funding and climate resilience programs do not necessarily reach their intended beneficiaries. In the aforementioned PIDS study, farmers and fisherfolk retain strong negative perceptions of climate finance mechanisms designed to help them,⁵¹ suggesting that these mechanisms may either be ineffective or fail to reach them. This correlates with the above-mentioned finding that institutional mechanisms for

⁴⁷ Global Commission on Adaptation, "Adapt Now: A Global Call for Leadership on Climate Resilience" (World Resources Institute; The Global Center on Adaptation, n.d.), https://files.wri.org/s3fs-public/uploads/GlobalCommission_Report_FINAL.pdf.

⁴⁸ "Philippines Climate Adaptation - Growth Gateway," Growth Gateway, February 11, 2026, <https://growthgateway.campaign.gov.uk/impact-and-case-studies/intervention-case-studies/case-study-philippines-nap/>.

⁴⁹ Derco Rosal, "Philippine Climate Funding Drops Below 3% of GDP in 2026 Despite High Risk Exposure," Manila Bulletin, February 4, 2026, <https://mb.com.ph/2026/02/04/philippine-climate-funding-drops-below-3-of-gdp-in-2026-despite-high-risk-exposure>.

⁵⁰ Jose Ramon Albert et al., "Climate Change Perceptions and Climate Finance Mechanisms in the Philippines: A 2025 Assessment" (Philippine Institute for Development Studies, December 2025), <https://pidswebs.pids.gov.ph/CDN/document/pidsdps2537.pdf>.

⁵¹ Ibid.

cross-cutting action remain at the aspirational and planning level. This then becomes the central problem: how can the Philippine government improve access to climate finance when the very frameworks actually render those most vulnerable largely invisible? This is especially critical for addressing heat stress as the most impacted sectors are simultaneously the most vulnerable because of their socioeconomic realities, and the most invisible because they are neither formally employed nor covered by social protection. Adaptation expenditures should not be viewed solely as costs. International experience demonstrates that investments in climate resilience frequently generate economic, social, environmental, and governance benefits through avoided losses, reduced recovery expenditures, improved productivity, enhanced public health, and strengthened institutional capacity. These benefits are increasingly referred to as resilience dividends and provide a strong economic rationale for proactive adaptation investments.

To conclude, there are two layers to the climate finance mobilization problem: first, that the public will inevitably bear rising adaptation costs, and if nothing is done to change the means by which the government secures funding, much of this burden will continue to take the form of debt. Second, the very sectors that are essential to the survivability of the country are themselves the most vulnerable to heat stress, and simultaneously invisible to the current policy architecture and the financing modalities that fund adaptation and resilience programs. This means that the general public will be doing much of the heavy lifting to adapt to increasingly destructive climate impacts, particularly heat stress, and the most vulnerable sectors are left to pay for their own survival as they keep the country afloat.



Case study: heat stress impacts among fisherfolk

Among the different at-risk sectors, fisherfolk remain the most vulnerable to climate change impacts. Across the Philippines, there are 2,302,648 registered fisherfolk, of whom 1.9 million are classified as small-scale, artisanal, or municipal fisherfolk,⁵² although this number is likely an underestimate owing to institutional and access-related challenges in registration. Fisherfolk consistently rank among the poorest of the 14 basic sectors, with a poverty incidence of around 27.4% - 30.6%, compared with the 15.1% national baseline according to the Philippine Statistics Authority.⁵³ As with the registration underestimates, poverty rates are likely higher owing to the limited coverage of the informal sectors in official statistics.

This makes fisherfolk uniquely vulnerable to climate change generally, and heat stress specifically. Large segments of the Filipino population rely on the sea both for sustenance and livelihood, and climate change impacts both through increased temperatures and their cascading impacts. Given that fisherfolk must go out to sea under exposed conditions, extreme heat and heat stress directly affect them. Despite the clear impacts in the sector, fisherfolk, especially municipal level fisherfolk who may not necessarily be included in national-level statistics, remain understudied on the specific impacts of heat remain scant. More studies are becoming available on Marine Heatwaves

⁵² Amor Diaz, *Philippine Fisheries Status: An Overview* (Bali, Indonesia: FAO Regional Workshop on Opportunities and Challenges in Economic and Post-harvest Issues Related to Market Access for Fisheries and Aquaculture Products, 2024), https://v4.infofish.org/media/attachments/2024/10/01/9-final-ph-fisheries-ppt_fao-workshop_bali_2024.pdf.

⁵³ Poverty and Human Statistics Division, "Official Poverty Statistics of the Philippines: 2023 Full Year" (Philippine Statistics Authority, August 15, 2024), https://psa.gov.ph/sites/default/files/phdsd/2023%20FY%20Official%20Poverty%20Statistics%20Publication_15August2024.pdf.

(MHW),⁵⁴ fish stock depletion,⁵⁵ and health impacts,⁵⁶ alongside a growing body of area-specific studies⁵⁷ and narratives⁵⁸ on the impacts of climate change to fisherfolk. Nevertheless, documented human impacts remain largely confined to impact assessments.⁵⁹ This case study was therefore conducted to contribute to the growing literature on climate change impacts on fisherfolk by focusing specifically on the human impacts of extreme heat among one of the country's most vulnerable sectors - one that may not be fully captured by national statistics and policy frameworks alone.

Methodology

To ground the analysis of heat stress impacts in the lived experience of fisherfolk, a case study was conducted via seven focus group discussions (FGDs) with fishing communities across the Philippines between May 10 and 15, 2026 co-facilitated by Greenpeace Philippines and the National Anti-Poverty Commission - Victims of Disasters and Calamities Sectoral Council (NAPC-VDCSC) representatives. The rationale for using FGDs as the primary qualitative instrument was threefold. First, the research questions concerning subjective experiences of heat, behavioral adaptation, and perceived livelihood loss are best accessed through facilitated group dialogue rather than structured surveys, which risk flattening the complexity of community-level knowledge. Second, fisherfolk in Philippine coastal communities have established patterns of collective deliberation through associations, Fisheries and Aquatic Resources Management Councils (FARMCs), and *bantay dagat* structures, making the group format a culturally-sensitive method of inquiry. Third, the geographic scope of the study required a method that could surface regional variation while maintaining comparable thematic lines across sites.

⁵⁴ Brisneve Edullantes et al., "Characteristics of Marine Heatwaves in the Philippines," *Regional Studies in Marine Science* 62 (March 23, 2023): 102934, <https://doi.org/10.1016/j.rsma.2023.102934>.

⁵⁵ Miloud Lacheheb, "Extreme Weather and the Economics of Fisheries" (PhD Dissertation, Victoria University of Wellington, 2025), https://openaccess.wgtn.ac.nz/articles/thesis/Extreme_Weather_and_The_Economics_of_Fisheries/29474252/1/files/55975193.pdf.

⁵⁶ Putri Ayuni Alayyannur et al., "Relationship Between Individual Characteristics and the Risk of Exposure to Heat Stress in Indonesian Fishermen," *Pharmacognosy Journal* 15, no. 2 (April 30, 2023): 294–97, <https://doi.org/10.5530/pj.2023.15.42>.

⁵⁷ "Exploring the Vulnerability of Small-Scale Fisherfolks in Selected Barangay S," *Journal of Environmental Science and Sustainable Development* 7, no. 1 (July 25, 2024), <https://doi.org/10.7454/jessd.v7i1.1235>.

⁵⁸ Borja Andrea Empamano and Roxette Flores, "Less Catch, Less Cash: How Climate Change Is Affecting Fisherfolk in the Philippines" (International Organization for Migration, March 14, 2022), <https://asiapacific.iom.int/stories/less-catch-less-cash-how-climate-change-affecting-fisherfolk-philippines>.

⁵⁹ Jen-Ming Liu, Elaine Quinatana Borazon, and Kyrie Eleison Muñoz, "Critical Problems Associated With Climate Change: A Systematic Review and Meta-analysis of Philippine Fisheries Research," *Environmental Science and Pollution Research* 28, no. 36 (August 3, 2021): 49425–33, <https://doi.org/10.1007/s11356-021-15712-6>.

The FGDs were organized around a common seven-part documentation structure covering community identity and context, current livelihood conditions and stressors, heat stress general perceptions, community-level solutions, government interventions, accountability, and a corporate accountability concept test. Each session was conducted in the local language or a mix of Filipino and the regional vernacular, with responses documented in both original language and English translation by a designated documentor. Sessions lasted approximately half a day. The seven sites were selected to represent the diversity of Philippine fishing geographies and risk profiles: Navotas (NCR) as an urban, high-density municipal fishing hub; Sabang, Morong in Bataan as a coastal community on Manila Bay with direct exposure to territorial and geopolitical fishing issues; a lakeshore community in Laguna representing the freshwater fisheries sector; Brgy. Don Paulino in Siargao as a small-island, reef-dependent coastal community also exposed to tourism pressures; Brgy. Seguinon in Salcedo, Eastern Samar as a high-risk coastal community in a typhoon corridor; Fisherman's Village in Tacloban City, Leyte as a post-Yolanda community with compounded climate vulnerability; and Brgy. Daga in Cadiz City, Negros Occidental representing Western Visayas aquaculture-linked fisherfolk organized under three associations.

A total of approximately 71 participants joined the seven sessions, with additional community members present as observers in Bataan and Cadiz City. Respondents were predominantly active and retired small-scale fisherfolk, fish vendors, and fish pond and aquaculture operators, recruited through existing fisherfolk associations, FARMCs, and community organizations at each site. The participant pool spanned a wide age range, from 13 to 82 years old, reflecting intergenerational dimensions of heat exposure and livelihood change. Women were represented as fish vendors, association officers, and household members in several sites, particularly in Tacloban and Cadiz City, introducing a gendered dimension to the data. Finally, participants were asked to sign informed consent forms prior to discussion.

Similarities across areas

All of the fishing communities reveal deeply shared ecological, economic, and physiological struggles because of extreme heat, though these impacts manifested differently across geographical and gender lines.

Participants across all areas consistently reported that extreme heat has compressed the productive window for fishing. These drastic changes represent not just seasonal inconveniences but profound structural changes to their daily work rhythm. A respondent from the Alyansa ng Mangingisda ng Navotas (ALMANA) in Navotas described how heat now makes the sun “burn the skin” as early as 9:00 -10:00 AM, forcing fishers to cut trips short or stay ashore entirely. Meanwhile in Bataan, a respondent reported leaving the water by 10:00 AM because he “cannot withstand the heat today,” while another

respondent noted that intense heat now begins as early as 8:00 AM, whereas in the past, it arrived around noon. In Laguna, participants who once sustained three-to-four-hour fishing shifts now report being unable to do so, while in Siargao, a participant described returning to shore “with only a few catch” after just a few hours. This shortening of productive fishing hours was also documented in Salcedo and Cadiz City, where multiple participants now prefer fishing at night or at least before sunrise to avoid daytime heat.

Participants also reported fish moving into deeper, cooler waters, reducing catch volumes and making small-scale vessels with limited range and fuel capacity ineffective. Participants in Bataan, Cadiz City, and Tacloban all described fish moving farther offshore because of the heat, requiring fisherfolk to travel greater distances and rendering *bancas* and handmade equipment ineffective. Ecological collapse was likewise cited as a reason for worsening fishing conditions: reef degradation in Siargao and Salcedo, lake system collapse in Laguna, bay pollution and habitat loss in Tacloban, and salinity change and aquaculture die-off in Cadiz. These lived experiences of declining catch, longer travel distances, compounded by extreme heat and concomitant ecological collapses in once-productive fishing grounds was a thread that ran through every discussion.

Across all communities, prolonged exposure to dangerous heat indices was seen as associated with acute cardiovascular and respiratory issues, including severe hypertension spikes in Navotas and Laguna, and debilitating asthma attacks in Negros and Laguna. In the most severe instances, deaths in Laguna and Tacloban were attributed to thermal strain, reporting cases of fishers suffering fatal heatstrokes while at sea. Fisherfolk likewise reported dermatological conditions across all the areas; respondents documented high prevalences of skin diseases, chronic sunburn, painful rashes, *bungang araw* (prickly heat), and *pigsa* (boils).

Financial precarity and dependence on informal credit emerged consistently across all seven sites. Participants described incomes that were daily, irregular, and already insufficient, making any disruption to fishing activity immediately translated into food insecurity and debt. In Bataan, a participant described borrowing from traders, with fish catch automatically surrendered to whoever financed the trip, while another reported borrowing the usual amount of PHP 1,500, repaid in catch rather than cash. In Laguna, all participants confirmed reliance on informal credit mechanisms including “5-6” or predatory lending schemes, with one participant noting that fishers are often excluded from formal programs like the 4Ps because they are perceived as self-sufficient despite being unable to sustain their livelihoods. In Siargao, a respondent described borrowing money from fish buyers as the default response to insufficient income, while in Salcedo, participants turned to relatives and savings groups for additional credit. Across all communities, there was a consistent sequence: no catch, no income, debt borrowed to cover both operating costs and household needs, with repayment structures becoming

more predatory and contingent on future catches that were themselves increasingly uncertain.

These economic impacts directly also translated into serious nutritional and developmental issues within the family unit. As catch yields plummeted and operational costs such as fuel and ice increased, household food security was compromised. Families reported reducing daily meals from three to one or two, leading to undernutrition, particularly in Bataan. This deprivation hit children the hardest. Parents in Siargao noted an inability to afford quality food or basic vitamins, while children across different areas experienced persistent heat-induced headaches, severe fatigue, and illnesses from sweat drying up. Extreme classroom temperatures also caused chronic exhaustion and forced parents to keep their children home from school, making environmental heat stress a direct barrier to basic education.

The psychological and emotional fallout of heat stress were likewise shaped by gender. For primary breadwinners, chronic stress from declining incomes and the inability to provide for their families manifested as anxiety and frequently contributed to domestic friction and marital tension over food insecurity, according to participants in Tacloban. Women bore the compounding emotional and physical labor of household climate adaptation. Mothers described losing sleep to manually fan their families through elevated nighttime temperatures, and disrupting their own rest to prepare children for school at dawn to beat peak temperatures. Ultimately, women carried the emotional weight of managing tight budgets and absorbing family distress, navigating the constant internal strain of having to deny basic needs to their children because the environment has compromised their income. In the marketplace, women also felt the impacts of extreme heat in relation to physical discomfort while selling fish and accelerated spoilage due to higher ambient temperatures, further reducing household income.

All groups unanimously agreed that large corporations and the fossil fuel industry bear primary responsibility for the conditions driving extreme heat, and that they should be held financially accountable. In Navotas, all eight participants agreed, with one explicitly linking the degradation of nearby mountains and industrial operations to the community's experience of heat. In Bataan, the unanimous agreement was accompanied by the observation that "those who have money are the ones who control the government and resources." Meanwhile, in Laguna, participants agreed on the basis that corporations are "the primary sources of pollution" and that communities can demand compensation. This consensus was equally strong in Siargao, Salcedo, Cadiz City, and Tacloban. The consistency of this position across geographically dispersed and politically diverse communities suggests a relative consensus on the need to hold those perceived to be responsible for the conditions driving extreme heat accountable.

Experiential variations across the areas

The most consequential difference among all the areas was the degree to which government, at all levels, was present, absent, or actively adversarial in each community's experience. Tacloban represented the most extreme case of government abandonment: all sixteen participants gave a failing mark to government interventions, saying that they received no help. One participant described being listed for a presidential fuel subsidy following a declared national petroleum emergency but receiving nothing, while knowing someone who received fuel subsidy despite owning no fishing boat. The community's Cancabato Bay restoration project was funded entirely by the NGO Leyte Center for Development, Inc. (LCDE), with no government counterpart. Laguna was the second-most abandoned site, with all participants asserting that "the government has not implemented any interventions," while also describing a structurally problematic aid system where BFAR distributed assistance based on outdated records that still included deceased beneficiaries.

Conversely, Cadiz City reported the most active collaboration between associations and local government, including an eco-tourism project with the City Tourism Office, mangrove culture programs with the City Agriculture Office, and a functioning market stall managed by the associations. Navotas has functional FARMC and NAPC linkages, with a respondent actively raising concerns at the council level. Bataan, Siargao, and Salcedo fell in between, reporting that some programs exist but that distribution was politically biased, administratively flawed, or practically inaccessible. The Siargao group added a dimension absent from other sites: participants in Brgy. Don Paulino explicitly attributed their exclusion from municipal support to their barangay not having supported the incumbent mayor in the last election, making their marginalization overtly political.

The nature of the ecological crisis also differed substantially across sites, shaping what participants understood as the primary threat to their livelihoods. In Laguna, the central crisis was the collapse of the lake ecosystem itself. One participant described chemical and human waste flowing from four connecting rivers, the blocked inflow of saltwater from Manila Bay that would otherwise promote plankton growth, and the proliferation of invasive species consuming fingerlings. Participants described a freshwater system entering terminal decline, with heat accelerating the degradation rather than serving as its main driver. In Tacloban, the defining ecological event was Typhoon Yolanda: One participant noted that "before Typhoon Yolanda, Fisherman Village was known to have lots of seafood and mangroves; nowadays, we have scarcity," framing the current crisis as a failure to recover from the disaster. In Cadiz City, two participants described a distinctly aquaculture-specific ecological impact, which consisted in rising water temperatures increasing salinity and lowering river water levels, killing oysters in their growing frames and preventing blue crabs from thriving.

The communities also diverged significantly in their adaptive capacities and forms of collective action. Cadiz City stood out for its functioning micro-finance (now lapsed), an active eco-tourism infrastructure project, multiple livelihood streams including aquaculture, dried fish, and market vending, and the capacity to execute MOAs, conduct skills training, and partnership frameworks. Navotas, through one respondent's FARMC chairmanship and NAPC council membership, possessed formal institutional channels for escalating concerns nationally, a capacity largely absent elsewhere. At the other end of the spectrum, Siargao's Brgy. Don Paulino was explicitly unregistered and unorganized as a People's Organization. This gap was not just administrative but also reflected a structural exclusion: without formal organizational recognition, they could not access institutional credit, national agency programs, or legal protection against political discrimination from the LGU. Salcedo's community was similarly limited, with participants coming from a remote coastal barangay whose primary connections to government ran through DOLE's Tulong Panghanapbuhay sa Ating Disadvantaged/Displaced Workers (TUPAD) and DSWD's Assistance to Individuals in Crisis Situations (AICS) rather than any structured fisheries development or climate adaptation pathway.

Finally, the composition of participants across sites introduced meaningful variation in whose experiences of heat stress were most visible. Tacloban had the highest proportion of women, with six fish vendors among sixteen participants, whose testimonies foregrounded the compound exposure they face: handling deteriorating products in open-air markets while managing household needs for families whose primary earner is unable to fish. Laguna's FGD had no women participants, resulting in a dataset reflecting solely the perspectives of older male fisherfolk, with the youngest participant in his fifties and the oldest 82 years old.

Solutions proposed by fisherfolk

The range of solutions proposed by the FGD groups demonstrate an acute understanding of how both individual adaptation and concrete communal and systemic solutions are needed, all the way from green infrastructure, to policies that have cascading effects beyond that of just the fisherfolk themselves.

1. **Shade and cooling infrastructure:** To escape the extreme heat trapped inside concrete residential houses, fisherfolk rely heavily on natural and communal spaces for immediate relief from the heat. In communities like Negros and Laguna, participants frequently retreat to coastal nipa huts (*kubo*) nestled near mangroves or seek rest inside the *bantay laot* (lake headquarters) to take advantage of better wind circulation and shade. Recognizing that these are temporary stopgaps, the Laguna group explicitly proposed long-term structural "green infrastructure" upgrades, including

the construction of public shelters, strategically planned tree canopies, and shaded walkways to protect the community during peak daylight hours. Meanwhile, in Negros Occidental, fishers have taken a highly localized approach by fabricating *habong-habong* (makeshift overhead covers) directly on the shore to shield workers from direct solar radiation during post-catch operations.

2. **Water access and cooling at sea:** Operating on open water under extreme heat exposes fishers to intense, unshielded UV radiation and severe dehydration, prompting demands for immediate technical and behavioral interventions. To directly mitigate this dangerous exposure during long harvesting hours, the Bataan group installs physical protective heat shields or built-in canvas canopies directly onto individual municipal motorized boats. Fishers in Laguna emphasize the necessity of increasing water intake to prevent heat exhaustion and heatstroke, coupled with tactically identifying shoreline tree canopies where they can dock and rest during peak thermal spikes.
3. **Behavioral and self-adaptation:** surviving extreme heat at the household level relies on daily behavioral changes, a burden largely managed by women across all study sites. Female respondents frequently micro-manage the domestic thermal environment by cooking all daily meals in a single early morning session to avoid generating indoor kitchen heat later in the day, watering domestic gardens more frequently, and meticulously organizing household budgets to account for heat-related costs. To shield their families from peak temperatures, parents universally adjust their daily routines by taking their families completely outdoors to sit under large community tree canopies or behind houses between 11:00 AM and 3:00 PM, as seen commonly in Siargao and Negros. Furthermore, mothers wake up hours earlier to walk their children to school before the sun peaks, or choose to have them skip classes entirely due to the humidity inside classrooms. When evening rolling brownouts cut off power to fans, families resort to manual fanning to help children sleep, resulting in chronic sleep deprivation for the parents. For the male fisherfolk themselves, they have resorted to fishing at night to avoid the daytime heat. Other fisherfolk, like the ones in Salcedo, have also resorted to solar power to charge fishing equipment as a means to offset rising fuel costs and dwindling economic spending power to buy more fuel.
4. **Livelihood diversification:** because dwindling fish catches and rising operational costs render fishing insufficient economically, fisherfolk actively pursue alternative, land-based revenue streams, heavily spearheaded by women across the different groups. Female respondents frequently take on manual laundry work (*labada*), establish micro-vending operations for home-cooked *ulam* (viands), or prepare and sell local street foods and native delicacies like banana que to offset income gaps. In Negros Occidental, women have creatively diversified by processing raw local seashells into high-value specialty dishes like Bicol Express and cultivating

domestic vegetable gardens for direct family sustenance. Participants in Cadiz likewise identify *tuyo* (dried fish) production as a way to ensure some income even during the worst summer months where the heat becomes unbearable. Looking toward sustainable long-term economic transitions, both the Negros and Siargao groups explicitly advocate for institutional support to formalize alternative livelihoods, requesting structural skills training for wives, garment production equipment, and specialized culinary training to capitalize on local tourism, with the Salcedo group specifically focusing on eco-tourism initiatives to supplement their income.

5. **Financial relief:** immediate economic shortfalls frequently push fishing households into predatory, high-interest informal debt networks, with families in Laguna and Salcedo routinely relying on “5-6” lenders, and localized *pautangan* just to buy fuel, ice, and basic provisions. To alleviate this structural debt trap, communities call for a radical overhaul of economic safety nets, with the Siargao group demanding the complete elimination of political favoritism to ensure that national climate assistance or ayuda and/or fuel subsidies are distributed transparently and equitably to all affected families regardless of local political alignments. For long-term economic restitution, fishers in Tacloban, Navotas, and Negros collectively champion a “polluter pays” framework. Given the need for actual cash for survival, Tacloban and Salcedo groups want to establish non-selective alternative livelihood cash support systems or at the very least income replacement schemes during no-fish advisories. Cadiz City also proposes micro-financing and savings groups calibrated for fisherfolk associations that have concrete government support, noting that their previous attempt to set it up failed because it lacked government backing. Lastly, all the groups demand that large corporations, both abroad and local, especially those within their respective vicinities, be held legally and financially liable to provide direct financial compensation to climate-impacted coastal communities.
6. **Environment restoration:** to curb the rapid degradation of aquaculture and marine zones, the Negros group strongly advocates for passing localized ordinances to enforce a total ban on plastic use alongside strict compliance with household garbage segregation. Protecting remaining natural shade is a critical priority, with Negros participants demanding strict policies to halt real estate and subdivision developers from clearing vital coastal coconut trees, while fishers in the highly urbanized environment of Navotas actively emphasize the urgent need for local government intervention to legally protect remaining urban tree canopies from being destroyed by rapid infrastructure and industrial development. By far the consensus solution among all groups is the repopulation of mangrove areas as it is seen as providing multiple benefits such as shade availability, restoration of fish habitats, and storm surge protection. The Laguna group also proposed water hyacinth and water lily projects for lake-based cooling and water quality improvement.

7. **Policy demands:** sweeping institutional and legislative reforms are deemed necessary by the communities to address the root causes of climate injustice and regulatory failures. The Negros group explicitly proposes that the national government enact comprehensive legislation focused specifically on extreme heat impacts, creating institutionalized economic safety nets that insulate marginalized outdoor laborers from external price shocks that may affect their livelihoods. The Bataan group also proposes strict ordinances to be enacted by the local government to police against fishing encroachment, especially from foreign elements. The Bataan group likewise called for the reform of fish landing policies as it is traders that usually dictate the pricing, disenfranchising the actual fisherfolk from fair pricing. On a local regulatory level, the Navotas group demands a complete eradication of corporate regulatory capture, criticizing environmental agencies like the DENR for failing to execute their monitoring mandates and calling on the highest national authorities to step in and legally halt industrial waste dumping and corporate malpractices occurring within municipal waters. Finally, across all study sites, there is a unified policy demand to institutionalize transparent criteria for social protection programs to permanently eliminate political discrimination in the distribution of state resources.



Discussion of results

The focus group discussions reveal the profound and cascading impacts of extreme heat, borne not only by fisherfolk but also their families, raising important questions about the intergenerational consequences for the most vulnerable. Despite differences in the fishing practices, the geographies, and socioeconomic and political contexts, all study sites shared a common burden: the need to adapt to increasingly oppressive working conditions while simultaneously coping with the actual impacts of rising temperatures on the very livelihoods that sustain them. In this sense, fisherfolk – and, by extension, other vulnerable sectors within their respective contexts – experience a double violence from extreme heat: its direct and indirect impacts.

The discussions also surfaced the myriad individual and collective solutions that fisherfolk across the areas have developed in response to extreme heat. However, no matter how creative or resourceful these strategies are, their effectiveness is ultimately constrained by politicized, inadequate, or altogether non-existent interventions, which emerged as a key factor magnifying the impacts of extreme heat.

These findings underscore that government interventions to address the impacts of extreme heat to a sector like fisherfolk need to be holistic, that is, human rights-centered, gender-responsive, and premised on the need for accountability. Lastly, there is also an acute understanding that the suffering that fisherfolk experience are not of their own doing, and that corporations who continue to operate with impunity both locally and abroad reinforce the poverty traps experienced by fisherfolk.

Recommendations

In summary, heat stress is a significant threat especially to the most vulnerable sectors who are also not adequately protected by a patchwork of government policies meant to address its impacts, who at the end of the day fall short in terms of considering the far-reaching and intersectional implications of not addressing heat stress holistically. There is then the difficult practical question of who pays for the impacts of heat stress, and how to make programs addressing it accessible to the most vulnerable sectors.

From the analysis above, a case can be made that the far-reaching impacts that heat stress has especially on vulnerable groups, and the structural policy gaps that compound these impacts further raises serious human rights concerns, and is inconsistent with the state's obligations under constitutional guarantees and multilateral instruments that the Philippines has ratified.

In view of these, Greenpeace proposes the recommendations below, which are guided by four overarching principles: (1) recognition of heat stress as a chronic and compounding climate risk; (2) prioritization of vulnerable and often invisible populations; (3) adoption of integrated, cross-sectoral governance approaches; and (4) promotion of resilience investments that generate measurable social, economic, environmental, and governance dividends:

1. Fulfill state obligations as mentioned in the International Court of Justice Advisory Opinion on the responsibility of states in respect of climate change (hereafter referred to as ICJAO)

The ICJAO explicitly affirms that climate impacts undermine and threaten human rights. Specifically, Paragraph 78 links carbon emissions to increases in “human mortality and morbidity and incidence of climate-related illnesses” via heat events.⁶⁰ Precisely because of this linkage, governments have a positive legal obligation to protect human health and life from threats such as heatwaves. On the national level, the government must go beyond providing just national frameworks such as the NAP. It must:

⁶⁰ “Summary of the Advisory Opinion of 23 July 2025: Obligations of States in Respect of Climate Change” (International Court of Justice, July 23, 2025), <https://www.icj-cij.org/sites/default/files/case-related/187/187-20250723-sum-01-00-en.pdf>.

- a. **Urgently heed House Resolution 1074** which recognizes the ICJAO and ITLOS opinions and calls on line agencies and legislators alike to conduct hearings and/or inquiries to look at the implications of both rulings. The resolution can then become the key institutional trigger in order to open inquiries in support of crafting legislative guidance that treats heat stress holistically.
- b. Develop scientifically defined criteria for declaring a state of imminent disaster based on projected heat hazard intensity, duration, cumulative exposure, and sector-specific vulnerability thresholds. Such criteria should enable anticipatory actions before severe health, livelihood, and service-delivery impacts occur.
- c. Further deliberations on the MACWIE bill must necessarily integrate climate lenses especially in relation to how compounding and slow-onset impacts disproportionately affect informal sectors. The president must then **certify the climate-lensed MACWIE bill as urgent** as a measure to demonstrate urgency to protect vulnerable sectors. This also ensures that the Philippine government is fulfilling its ICJAO mandate to protect its most vulnerable citizens from the impacts of heat stress.
- d. the president must likewise **certify accountability policies like the Climate Accountability (CLIMA) bill as urgent** and thereafter support its swift passage. The proposed legislation institutionalizes climate justice mechanisms so that the state is able to exact a measure of reparations from those most responsible for perpetuating the climate crisis. In effect, this fulfills a core obligation of states to be able to regulate corporate behavior, as one of the core designs and purposes of the CLIMA bill is to hasten the transition by disincentivizing large carbon-emitting industries to continue with fossil fuel use.

2. Revamp sectoral integration mechanisms beyond “mainstreaming”

The Philippine government, through the leadership of the CCC, should go beyond mere mainstreaming mandates for better integration. A significant shift in governance language is needed, where mainstreaming climate change should not be aspirational anymore but whose outcomes are directly measurable from a systems thinking perspective. To fulfil its mandate as overall coordinator, CCC provides certificates for climate-tagged projects as a way to certify that a project by a government body directly fulfils a climate-related target. It is through this roundabout way that an agency has mainstreamed climate change action, by demonstrating through the Climate Change Expenditure and Tagging (CCET) that they understand a project’s goals in alignment with national climate plans.

- a. Rigid fiscal accountability mechanisms must be put in place to ensure high quality service delivery of agencies and their intended climate mandates. **The CCC must overhaul its criteria and guidelines for Quality**

Assurance and Review (QAR) and create an evaluative framework based on the most recent science on socioeconomic pathways, and place greater emphasis on: datasets that measure human impact of slow-onset events that are usable sectorally, continuous community consultation and social acceptance criteria, and metrics that measure quality of life rather than mere project completion. The government must likewise enforce the Department of Budget and Management's (DBM) circular letter no. 2026-5, requiring sectors to fully report their climate-tagged projects to their respective COA audit teams. This ensures that there is one overarching framework from project conceptualization to monitoring.

- b. Harmonize cross-cutting guidelines (such as OSH Rule 1074) with PAGASA's long-term and semi-granular modeling to create chronic hazard scenarios that can be utilized in the declaration of the state of imminent disaster. Currently the IRR of RA 12287 has been drafted but has not yet been published. The Office of Civil Defense (OCD) must immediately incorporate this harmonization so that it can enrich hazard assessments and imminent disaster triggers for compound events like extreme heat, which inevitably lead to heat stress impacts. One definite way to harmonize is to **incorporate heat-related hazard assessments and sectoral triggers like the OSH's WBGT exceedance thresholds in order to create criteria to declare imminent disaster for extreme heat**. In this manner, the state of imminent disaster can be declared when certain thresholds are exceeded for consecutive days, rather than treating the 3-5 anticipatory lead time as absolute values as if a heat event was entering the Philippine Area of Responsibility. Hazard assessments should explicitly incorporate compound and cascading risks, including heat-drought interactions, heat-related water scarcity, power supply disruptions, air-quality degradation, and ecosystem stress. Such compound-risk approaches are increasingly recognized in international climate science as critical for understanding real-world climate impacts.
- c. The Health and Climate Change Roadmap 2025-2050 is a best practice example of sectoral adoption of national climate mitigation and adaptation strategies. **The architectural framework of the health and climate roadmap must be adopted by other sectoral agencies** that directly address heat stress so that they can have their own blueprints to deal with compound events.

3. Recenter human cost as a central organizing principle in sectoral responses to heat stress

While heat-related impacts cover both macro- and microeconomic dimensions, it is the human cost that tends to go unnoticed. The Philippine government must enable policies that address heat impacts not only from an economic perspective, but also in relation to the long-term human

impacts heat stress can give. This should not only be confined to sectors that deal with it (for example, DOH and DepEd) but also other agencies that tend to prioritize economic shock mitigation.

- a. **Prioritize cooling infrastructure and cooling corridors** incorporating green spaces and nature-based shaded pathways in dense urban centers, and **strategically-placed rest and shade areas** for workers with long duration exposure in open environments. This should be flagged by the CCC as priority projects for CCET tagging, rather than pursuing mostly-grey infrastructure development. Nature-based solutions, including urban forests, green corridors, wetlands, riparian buffers, urban parks, and blue-green infrastructure, should be prioritized because they simultaneously reduce ambient temperatures, improve environmental quality, support biodiversity, strengthen ecosystem services, and provide multiple resilience co-benefits.
- b. **Apply the principles for cooling found in the Green Building Code for socialized housing.** The Department of Human Settlements and Urban Development must take the lead in contextualizing and scaling the cooling philosophies found in the code. This can include the non-usage of heat-absorbing materials for roofing, and maximizing indoor ventilation. This guarantees that socialized housing does not only fulfill the bare minimum of providing shelter, but fortifies its survivability and livability.
- c. Government Financial Institutions must step in to address crop and catch spoilage during extreme heat periods, and **provide just microfinancing solutions, which can be structured to be interest-free or at the very least low-cost.** This ensures that the cascading impacts of crop failure and declining fish catch are mitigated, giving critical fiscal breathing room for those most affected by extreme heat. Another pathway is pilot testing and validating updated parametric insurance systems for vulnerable sectors for heat-related events and not just typhoons and extreme rainfall events. Given the compounding nature of extreme heat impacts, more sophisticated trigger mechanisms based on duration accumulation of exposure and intensity might be needed. If the datasets are harmonized and imminent disaster triggers are calibrated to the duration of extreme heat, it will be much faster to trigger automatic payouts based on extreme heat indicators.
- d. **Expand anticipatory action-oriented projects such as DSWD's Project LAWA and Project BINHI by appropriating larger budgets for them,** which can likewise provide alternative income sources for the most affected sectors. These projects can also be harmonized with local knowledge and intangible heritage elements to also contribute to better social cohesion and transmission of local resilience knowledge.

Finally, these projects can be harmonized with the triggers through the imminent disaster declarations to maximize their effectivity.

4. Pursue justice- and reparations-based financing to address heat stress

In order to close the finance gap, and in order to remove the burdens of the public financing its own survival, the government must prioritize progressive justice-based cost-recovery mechanisms as a way to exact climate justice and redistribute the wealth to those who have least contributed to the climate crisis but are suffering the most. It is in the best interest of the government to pursue climate justice pathways as it also alleviates the burden to allocate limited resources to fund massive adaptation and recovery programs.

- a. The government must pursue progressive taxation beyond emissions-based penalties like the cost-recovery mechanism found in the CLIMA bill. **It must also look at excess wealth-based taxation as a means to redistribute private wealth to fund public commons.** There is a case to be made that the extreme concentration of capital compounds climate impacts and perpetuates structural injustices further. The government must pursue this by looking into progressive taxation mechanisms around the world, and likewise champion progressive eco- and wealth-based taxation in multilateral mechanisms such as the UN Framework Convention on International Tax Cooperation.⁶¹ The Philippines must join the chorus of other countries such as South Africa, Spain, Brazil, and Chile to push for a global minimum tax on billionaires, which can unlock trillions worth of funds globally. This can potentially bridge and even exceed the financing gap for heat stress impacts and can provide a solid measure of hope for vulnerable sectors.
- b. In addition to climate accountability and progressive taxation measures, policymakers may explore complementary financing instruments such as resilience bonds, adaptation trust funds, blended finance facilities, climate-risk pooling arrangements, and international adaptation finance mechanisms to diversify funding sources and reduce long-term fiscal risks.
- c. The Philippine government recently submitted its funding proposal to the Loss and Damage fund which included non-economic loss and damage (NELD) as a key priority. However, it is unclear how exactly NELD will be measured. In this regard, **the government can look into metrics that measure heat-driven environmental degradation and biodiversity loss, mental and chronic health strains, cultural loss, and**

⁶¹ <https://www.cesr.org/the-un-tax-convention-terms-of-reference-have-been-approved-whats-next/#:~:text=This%20transition%20moves%20tax%20cooperation,forum%20at%20the%20United%20Nations.>

displacement as means to measure NELD on heat stress. Providing these metrics ensures that the most invisible impacts to heat stress are given a face in terms of data which can be further basis for funding. Potential indicators for heat-related non-economic loss and damage may include mental health outcomes, chronic disease burden, ecosystem degradation, biodiversity loss, displacement, social cohesion, cultural heritage impacts, and losses associated with declining quality of life. Establishing such indicators would strengthen the evidence base for future climate finance proposals and resilience planning initiatives.



Conclusion: climate justice is a non-negotiable for a sustainable future

The findings and recommendations underline the importance and urgency of securing the future of Filipinos and giving them a fighting chance in a world that is becoming increasingly inhospitable due to extreme heat. The effects of rising temperatures through physiological heat stress affect everyone, but they are magnified for those who live in the frontlines. This report likewise has tried to lay out a comprehensive analysis of policies addressing heat stress in the Philippines, subsequently exposing the critical gaps that not only hinder the government from holistic ways to address heat stress, but also lock out sectors who are rendered invisible from formal structural policy apparatuses. This report highlights fisherfolk, one of the sectors most affected by rising temperatures, who are also afforded less protection because of the precarity of their sector's formality and recognition from the state. The narratives and aspirations of the different fisherfolk communities around the Philippines point to a stark need for climate justice and accountability mechanisms to address not only their immediate needs in relation to addressing extreme heat, but also the more difficult question of who needs to pay up for escalating losses and damages due to extreme heat and physiological heat stress. The onus is on the Philippine government to act sooner rather than later, should see climate justice and accountability as non-negotiable elements that it needs to hasten in championing to ensure that a better future for every Filipino - especially those at the frontlines - is not only possible but within reach. The Philippine government should see climate justice and accountability as non-negotiable elements that it needs to hasten to ensure that a better future for every Filipino - especially those at the frontlines - is within reach. The onus is on government leaders to act sooner rather than later before the alarming realities of a country experiencing almost yearlong extreme heat scenarios become not just figures from projections, but lived realities.





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