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**AMERICAN
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FACULTY OF HEALTH SCIENCES

IN THE HOTTEST COUNTRY OF THE WORLD: WHO IS MOST VULNERABLE TO CLIMATE CHANGE?

2023

Climate, migration & health in Kuwait

Case study



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This report is published as part of the Arab NGO Network for Development's Arab Watch Report on Economic and Social Rights (AWR) series. The AWR is a periodic publication by the Network and each edition focuses on a specific right and on the national, regional and international policies and factors that lead to its violation. The AWR is developed through a participatory process which brings together relevant stakeholders, including civil society, experts in the field, academics, and representatives from the government in each of the countries represented in the report, as a means of increasing ownership among them and ensuring its localization and relevance to the context.

This 6th edition of the AWR focuses on the Right to Health. The AWR 2023 on the Right to Health is a collaboration between the Arab NGO Network for Development and the Faculty of Health Sciences at the American University of Beirut. Through this report we aim to provide a comprehensive and critical analysis of the status of the Right to Health in the region and prospects in a post COVID-19 era. It is hoped that the information and analysis presented in this report will serve as a platform to advocate for the realization of the right to health for all.

The views expressed in this document are solely those of the author, and do not necessarily reflect the views of the Arab NGO Network for Development, the American University of Beirut, Brot für die Welt, Diakonia, or the Norwegian People's Aid.

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INTRODUCTION

While climate change, as a global crisis, affects all aspects of life, including our health, these impacts have far-reaching consequences for vulnerable populations such as migrant workers. Migrant workers are a significant part of the workforce in Kuwait. Workers face many challenges in host countries, including discrimination, poor living and working conditions, and limited access to health services. The health of migrant workers will be further threatened by the impacts of climate change, which exacerbates the challenges they face and exacerbates health inequities and disparities. Migrants' health is often neglected in host countries, and their right to health is frequently violated.

This case study aims to examine the impacts of climate change on the health of migrant workers in Kuwait and to explore the ways in which the right to health of these workers is being violated. The case study will shed light on the complex intersections between climate, migration and health in Kuwait, and provide overarching recommendations tailored specifically for migrant workers who are at the frontline of extreme climate conditions.

GLOBAL CLIMATE CHANGE IS A HEALTH CRISIS

In a series of assessments done by the Intergovernmental Panel on Climate Change (IPCC), the links between climate change and population health were clearly established (Intergovernmental Panel Climate Change 2021). Climate change is no longer only an issue for environmental alarmists and conservationists; it is a health emergency. The evidence now shows that the changing climate has led to unprecedented damages to the balance of ecosystems and sustainable living.

Figure 1. How does heat affect health? *Examples of climate-sensitive health outcomes that will be amplified due to increasing heat duration, intensity and frequency of heat exposure.*

Example of Climate-Sensitive
Environmental Exposure



Extreme Heat



Example of Climate-Sensitive
Health Outcomes



Respiratory
Diseases



Heart
Diseases



Kidney
Diseases



Mental &
Psychosocial
Effects



Strains on
Healthcare
Facilities



Work-related
Injuries

The pathways in which climate and health interact are complex, bi-directional and interdependent (Khraishah et al. 2022; Rocque et al. 2021). One of the simplest pathways is the direct effect of extreme heat on health. Over the last decade, heatwaves and extreme heat are becoming more frequent, longer in duration and higher in intensity. In an analysis of all global deaths around the world, it was estimated that non-optimal temperatures may be responsible for about five million deaths each year (Zhao et al. 2021). Another global analysis showed for every 100 heart-related deaths, at least

one death is attributed to extreme temperatures alone (Alahmad et al. 2023). Prolonged exposure to heat can have a range of dangerous and even life-threatening effects on the human body (**Figure 1**). When the body is exposed to heat, it sweats to cool down and blood diverts away from many organs towards the skin. Sweating increases the risk of dehydration if fluids are not replenished. Strains on the heart, lungs and kidneys can exacerbate existing conditions in vulnerable individuals (Ebi et al. 2021). Additionally, more research is now showing adverse effects on mental health (Berry et al. 2010), increased healthcare demand (Bone et al. 2018), occupational injuries (Fatima et al. 2021) and others.



UNIQUE DEMOGRAPHY

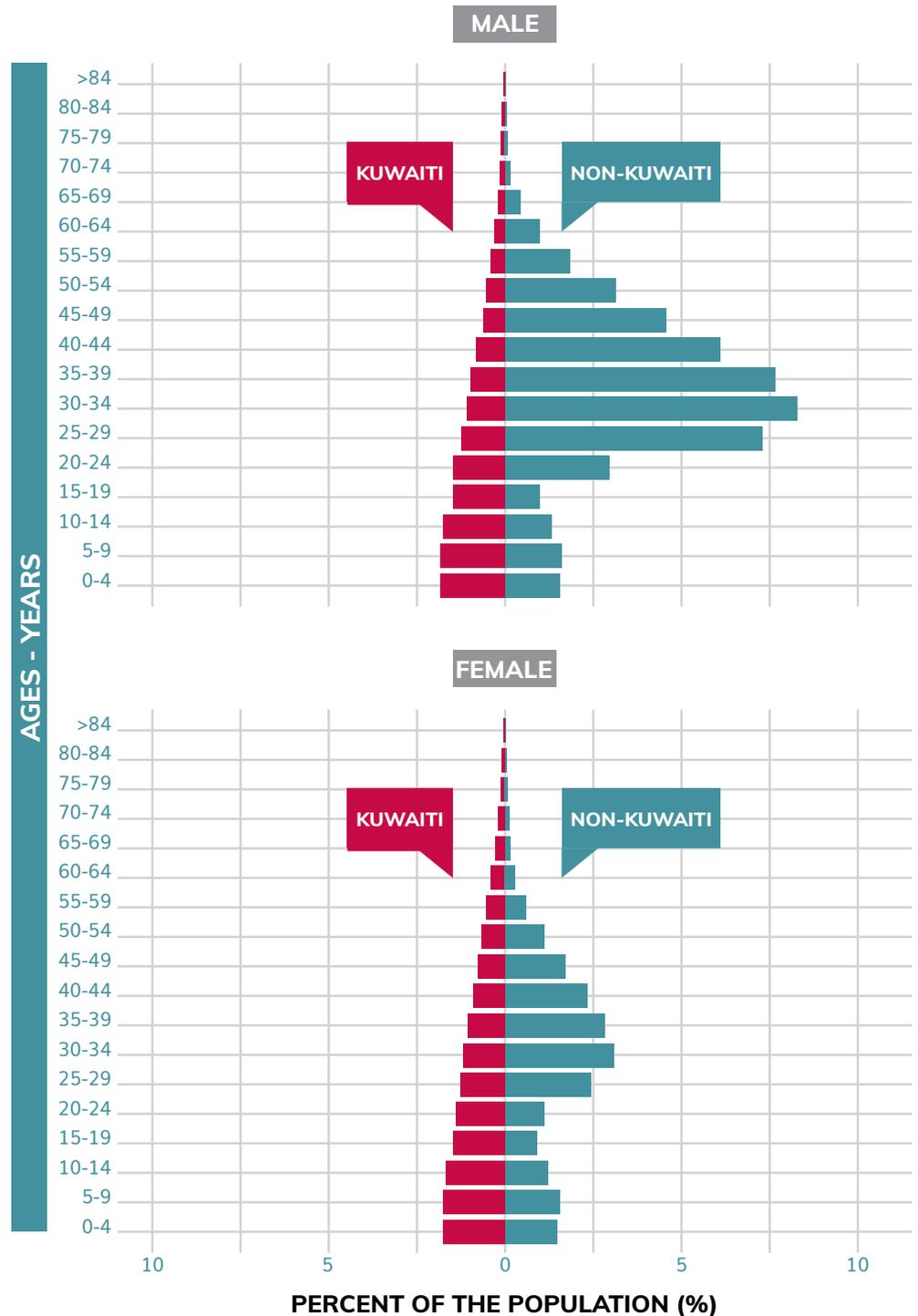
Unlike anywhere else in the world, the Gulf countries have a distinct demographic profile: the majority of the population are non-citizen migrant workers. In Kuwait, the total population is 4.2 million. Nearly 70% are non-Kuwaitis, of which approximately 65% are males (PACI 2020). The majority of migrant workers in the country come from South and Southeast Asia (mainly India, Bangladesh, and the Philippines), whereas the non-Kuwaiti Arab working population comprises largely of Egyptians. Migrant workers are predominantly employed in the hospitality and service industry as well as manual and construction work (Alahmad et al. 2020).

In their home countries, workers are usually trapped between unemployment, poverty and despair. They look for jobs abroad every year. They pay significant amounts of money to agents that promise them job security in the Gulf countries. They borrow money and get in serious debt to pay these agents.

Once in the host countries, family visas in the Gulf are very strict which forces workers to come unaccompanied by their families. The Kafala system, also known as sponsorship system, governs labor migration rules in Kuwait. Kafala ties the legal status of a migrant worker to their sponsor or employer. By design, the system prohibits workers from leaving their job or to change employers without the permission of their sponsor. Effectively, Kafala creates an immediate power differential between migrants and employers. This results in a situation where workers are often subjected to exploitation and abuse, including poor working conditions, long hours, low wages, and inadequate housing. On top of that, Gulf governments usually assign certain residential neighborhoods to be for 'bachelors-only.' These neighborhoods turn into deprived areas of crowded and male-dominated clusters of migrant workers as compared to the traditional Kuwaiti 'families-only' affluent neighborhoods.

In stark contrast with the Kuwaiti population, the majority of non-Kuwaitis are young males in working age (between 30 and 49 years), with only 20% of non-Kuwaitis having an educational attainment beyond high-school (PACI 2020). The skewed population pyramid is thought to have different strains on the public health system (**Figure 4**).

Figure 2. What can be learned from a skewed population pyramid in Kuwait?



FOR THE KUWAITI POPULATION

- **Symmetry:** close enough ratios of males to females
- **Narrow apex:** low proportion of people living longer, a typical finding for developing countries
- **Wide base:** high fertility rate and a young population

FOR THE NON-KUWAITI POPULATION

- **Distorted pattern:** influx of migrants in working age
- **Sex structure:** Very high male to female ratios
- **Narrow base:** low birth rate or small number of children

FUTURE CLIMATE IN KUWAIT

The warming of our planet is not evenly distributed. In countries that are inherently hot and have a harsh climate, temperatures are rising at a faster pace and setting record-high levels. Recent evidence is now suggesting that the Arabian Peninsula could be facing significant risks to maintain human survivability due to climate change (Safieddine et al. 2022). One projection for the region estimated an eight to 20 times increase in mortality rates in the future (Ahmadalipour, Moradkhani, & Kumar 2019). As temperatures get hotter and hotter, we risk pushing the limits of human adaptability (Pal & Eltahir 2016).

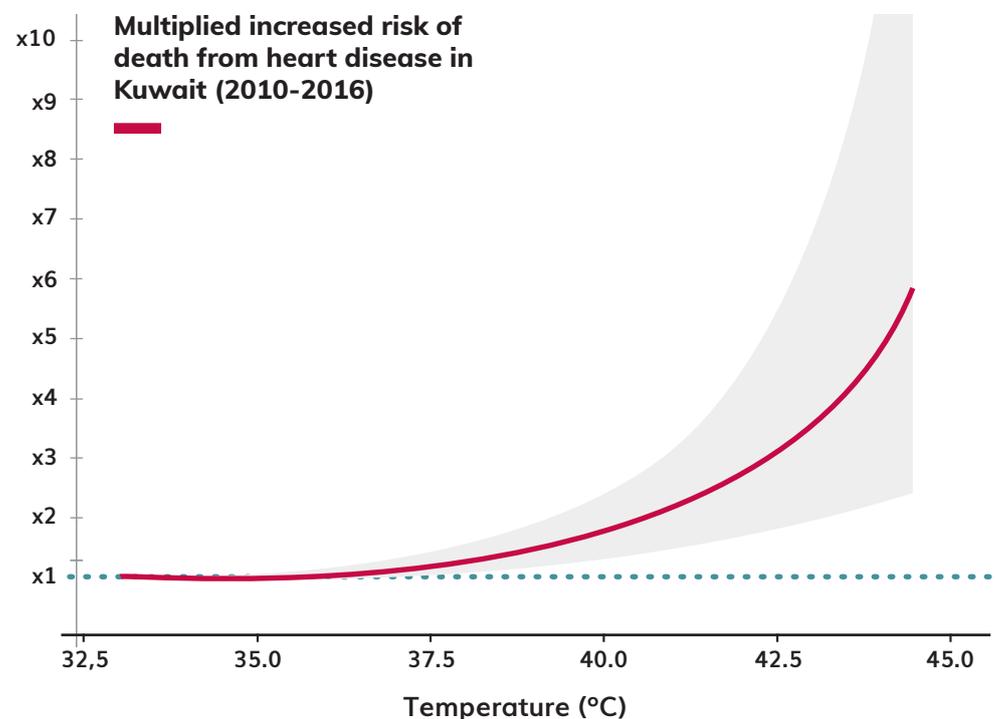
Kuwait, commonly dubbed as the hottest country in the world, registered one of the highest temperatures on record; a 54.0°C in the summer of 2016 (Merlone et al. 2019). In recent years, far too many days in Kuwait's summer are exceeding 40°C and 50°C. In the last couple of years, at least a dozen of news stories came out covering different aspects of today's extreme heat in Kuwait and the Middle East, viewing it essentially as the "canary in a coal mine" for the rest of the world (e.g., NYT 2022). That is, Kuwait's summer today is a good indicative for what future summers could look like in Southern Europe, warm states in the United States and other regions.

In an analysis of historical temperatures in Kuwait from 2010 to 2016, the risk of death from heart disease doubles and triples at 41°C and 42°C, respectively, compared to the optimum temperature of 34°C (**Figure 2**) (Alahmad et al. 2020). This alarming evidence from Kuwait clearly shows the potential devastation that extremely hot temperatures can have on populations. Put another way, we do not have to look at the future to see the health impacts of climate change in Kuwait; extreme heat is already increasing mortality substantially in the country (Alahmad et al. 2019).

The IPCC, in its 2021 sixth assessment report, said that scientists were 'virtually certain' that the intensity and recurrence of heat events have increased globally since the last century (Intergovernmental Panel Climate Change 2021). It is rare for scientists to use language that does not express any uncertainty. Globally, by the end of the century, the average temperatures are expected to increase by 2.4°C ('moderate' climate change scenario: SSP2-4.5) and 4.4°C ('extreme' climate

change scenario: SSP5-8.5), compared to pre-industrial times (from 1850 to 1900)(Intergovernmental Panel Climate Change 2021). This increase in average temperature will result in possibly globally unprecedented heat in already hot Kuwait.

Figure 3. How does heat affect risk of death from heart disease in Kuwait? *The dose-response relationship between daily average temperatures in Kuwait (x-axis) and the relative risk of death from heart disease compared to the optimum temperature of 34°C (y-axis)*

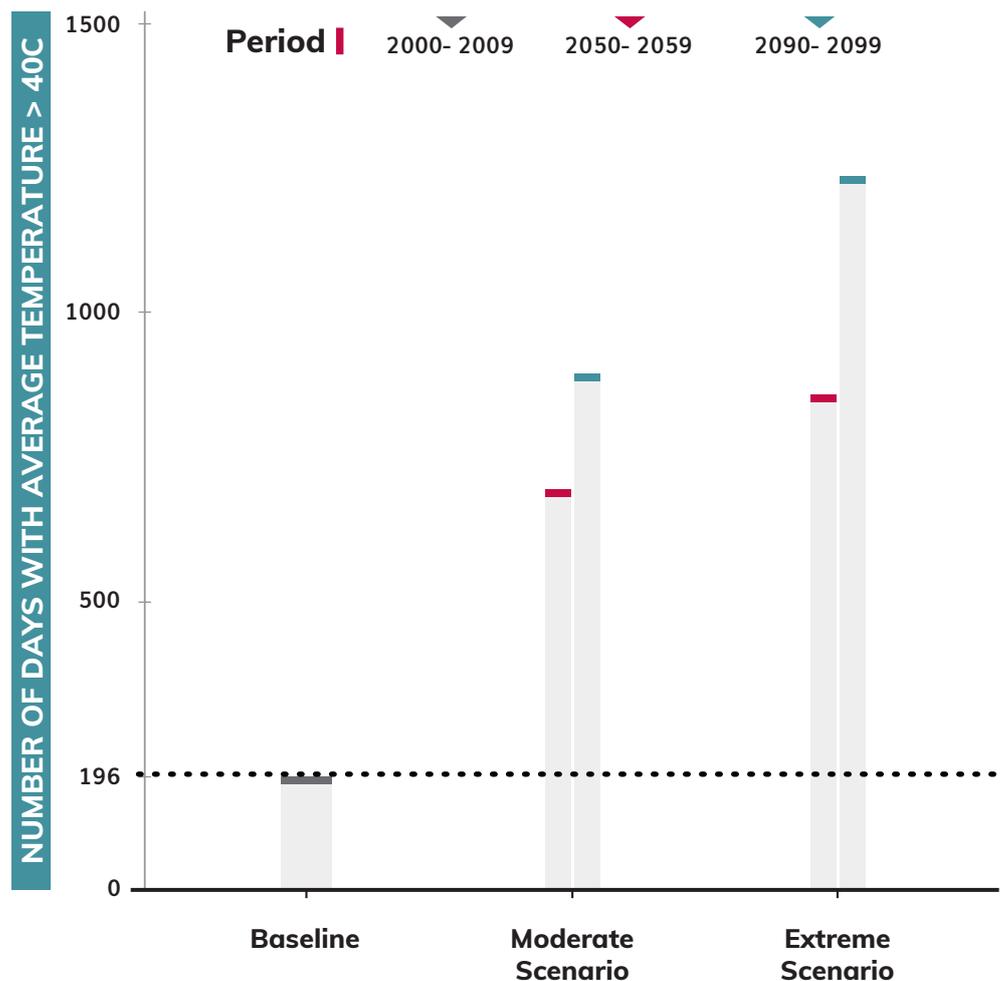


In an analysis of future temperatures from 2060 to 2099 vs. temperature baseline from 2000 to 2009, Kuwait could see an increase of 1.8°C to 2.7°C in a moderate scenario, and 2.6°C and 5.5°C in an extreme scenario, respectively (**Table 1**) (Alahmad et al. 2022). The country is expected to continue heating at a fast rate; an increase in average temperatures seems inevitable even under moderate scenarios. By mid-century, even a moderate scenario will result in 692 days per decade (69.2 days per year) where average 24-hour temperature exceeds 40°C. In an extreme scenario and by the end of the century in Kuwait, there will be 1,232 days per decade (123.2 days per year) in which the temperature exceeds 40°C. To put this into context, there were only 196 days of temperature > 40°C in the 2000 to 2009 decade (19.6 per year) (**Figure 3**).

Future projections of mortality in Kuwait due to climate change were not a case for optimism. Climate change would increase heat deaths by an additional 5.1% (moderate scenario) and 11.7% (extreme scenario). Researchers estimated that these percentages will translate into heat driven by climate change to be responsible for 14 of every 100 deaths in Kuwait by 2099 (Alahmad et al. 2022). Remarkably, migrant workers were identified as extremely vulnerable to heat and are set to bear a larger impact from climate change.

Figure 4. How many days of extreme heat are in Kuwait?

Number of days when the average 24-hour temperature exceeds 40°C in the 2000 to 2009 baseline compared to the future scenarios by 2059 and 2099. Moderate climate change scenario = SSP2-4.5; Extreme climate change scenario = SSP5-8.5.



| Source: Alahmad et al. 2022

Table 1. What are the expected warming levels in Kuwait?

Decadal increase in average temperature compared to the baseline decade of 2000 to 2009. Moderate climate change scenario = SSP2-4.5; Extreme climate change scenario = SSP5-8.5

Decade	Increase in Mean Temperature (°C)	
	Moderate Scenario	Extreme Scenario
2000-2009	0.00 (Baseline for comparison)	
2010-2019	0.30	
2020-2029	0.71	0.79
2030-2039	1.06	1.32
2040-2049	1.45	1.92
2050-2059	1.79	2.57
2060-2069	2.07	3.21
2070-2079	2.29	3.96
2080-2089	2.69	4.66
2090-2099	2.69	5.54

| Source: Alahmad et al. 2022

MIGRANTS' HEALTH DISADVANTAGE

Migrant workers' health is often overlooked as they tend to be counted in the groups of those who are 'young and healthy'. However, migrants face an extraordinary number of stressors in host countries that shape their physical and mental health, and their overall right to health.

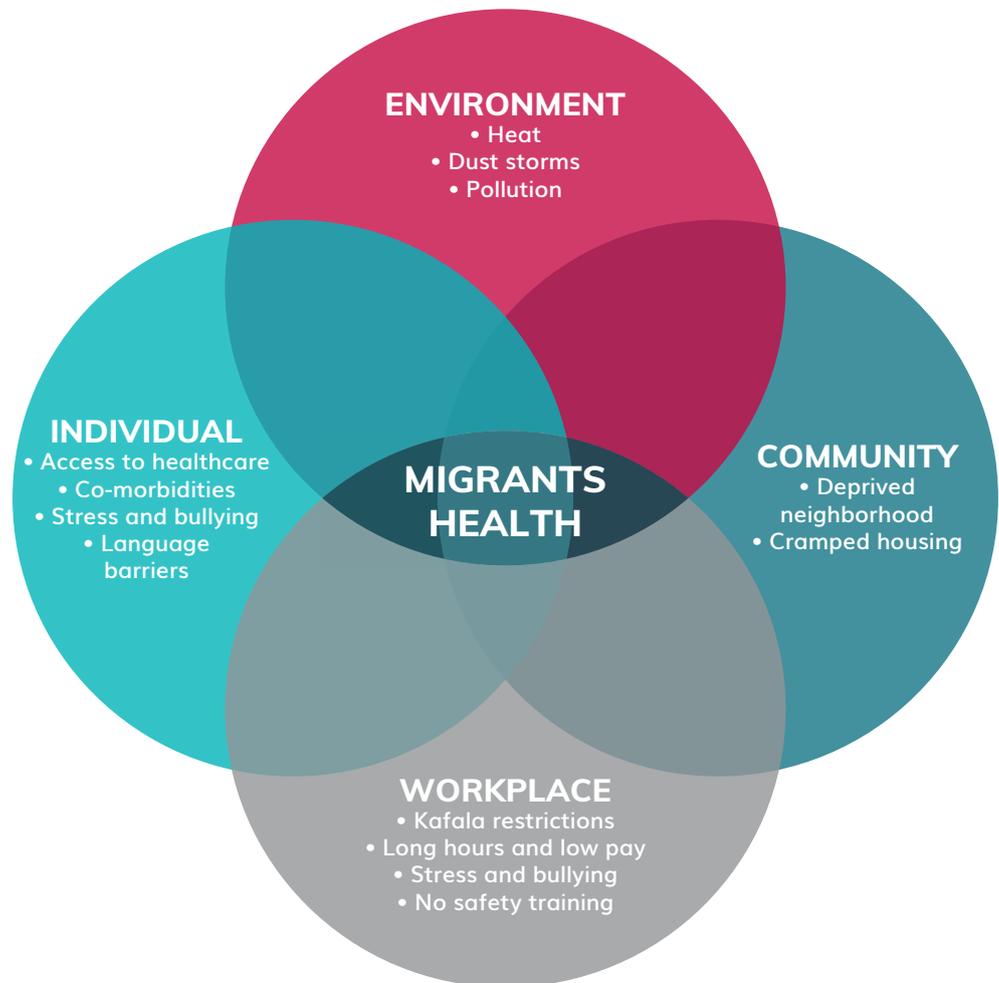
They often come from devastated communities that are affected by extreme poverty, conflict, violence and environmental disasters. Sometimes, their long and exhaustive journey alone could jeopardize their health. But as soon as they arrive in host countries, they face social, political and economic exclusion.

There are four domains at which stressors cumulatively wear down the health of migrant workers (**Figure 5**).

At the individual level, it is difficult for migrant workers to access and utilize healthcare in Kuwait (Hamadah et al. 2020). The public healthcare system in Kuwait is funded by the government and provides free or low-cost medical services to citizens and certain categories of migrants, such as government employees. For the rest of migrant workers, they pay out-of-pocket for services for a range of medical services, including primary care, specialist care, and hospitalization. A recent survey found that at least one in three non-Kuwaitis could rarely or never afford healthcare (Vital Signs 2022). Even if they can afford it, the healthcare system in many ways is segregated in Kuwait based on nationality. For example, there are morning outpatient clinics that run for Kuwaitis only. Jaber Hospital, the recently opened largest state-of-the-art architectural beauty, is restricted for Kuwaiti patients only. At the time of writing this case study, there are no mandatory interpretation services at public hospitals for non-Arabic speaking patients.

Figure 5. What creates the migrants' health disadvantage?

Four key domains in which stressors can cumulatively result in poor health outcomes for migrant workers: the environment, community, workplace, and individual



Source: Alahmad, Kurdi, et al. 2020

At the workplace, migrant workers in Kuwait are also often subject to exploitative and abusive working conditions, with lax occupational health and safety regulations resulting in preventable injuries. Unregulated long hours, heavy physical workloads, and low pay are drivers of psychosocial stress that can negatively impact migrant workers' physical and mental health. The Kafala visa system further exacerbates the issue, as workers may be reluctant to assert their rights or seek medical care for fear of losing their job or being deported. The system denies any right to unionize in the country.

Migrants' health is also impacted at the community level. There are striking differences between the neighborhoods for Kuwaitis and non-Kuwaitis. Migrant workers often live in

poorly maintained, cramped houses that can have an effect on their ability to adapt to health stressors. For example, during the COVID-19 pandemic, housing and community conditions facilitated the spread of infectious diseases (Khadadah et al. 2021). They also lack access to healthy food options and recreational facilities, such as gyms and parks.

Finally, we get to the environmental stressors. An emerging body of epidemiological literature in Kuwait shows that the harsh environment is differentially affecting non-Kuwaiti migrant workers as compared to the Kuwaiti population (**Table 2**). From a public health standpoint, seeing an increased effect on 'young and healthy' migrants compared to the general public is extremely concerning. A changing climate is not being felt equally by everyone. The poor and the most vulnerable, such as migrant workers are the worst hit. The hazardous hot conditions where non-Kuwaiti migrant workers perform physically demanding jobs for extended periods outdoors is disproportionately increasing their susceptibility. This health inequity is expected to worsen as climate change and hazardous heat intensifies, making the need for addressing the right to health of migrant workers in Kuwait and the region all the more pressing.

Table 2. What are the environmental health disparities in Kuwait? *The health disadvantage of migrant workers in Kuwait extends to environmental exposures and climate change (statistical significance is determined based on a p-value > 0.05)*

	Risk among Kuwaitis	Risk among non-Kuwaitis
Current impact		
Dust storms days vs. non-dust storm days	No significant increase	4% increase in deaths (range: <1% to 6%)
Extreme heat days vs. optimal temperature days	No significant increase	96% increase in deaths (range: 10 to 352%)
Future simulations		
Moderate climate change projections of heat deaths in 2059 vs. today	No significant increase	4.6% increase in deaths (range: 0.9 to 7.5%)
Moderate climate change projections of heat deaths in 2099 vs. today	No significant increase	6.8% increase in deaths (range: 1.5 to 11.7%)
Extreme climate change projections of heat deaths in 2059 vs. today	No significant increase	6.8% increase in deaths (range: 1.5 to 10.5%)
Extreme climate change projections of heat deaths in 2099 vs. today	No significant increase	15.1% increase in deaths (range: 4.6 to 22.8%)

| Sources: Achilleos et al. 2019; Alahmad et al. 2020; Alahmad et al. 2022

MOVING FORWARD

No magic stick can solve all the problems for migrant workers in Kuwait. There must be a set of interventions to address essential domains at the individual-, community- and workplace-level(s). In the meantime, environmental exposures and right to health are arguably inseparable for migrant workers.

Unfortunately, many days are becoming too hot to work. Climate change is only going to make it worse. Migrant workers work in dirty, dangerous & demeaning jobs in hazardous hot conditions. Despite a warming climate, heat policies to protect workers are lacking at international and national levels. The International Labor Organization (ILO), the World Health Organization (WHO) and even the U.S. Occupational Safety and Health Administration (OSHA) do not have heat standards to protect workers (especially migrant workers) from dangerous heat exposure.

Gulf countries have adopted a ban on work during midday hours during summer months. However, this simple solution has many drawbacks. Firstly, it assumes that the heat risk is limited to only the summer months. Extreme heat events can happen outside these months and may become more frequent due to climate change. Additionally, the policy does not take into account many environmental (e.g., temperature, humidity, wind speed and sunlight), workplace (e.g., rest, shade, hydration, etc.), or personal factors (e.g., acclimatization, comorbidity, etc.) that affect occupational heat stress. As a result, heat-related injuries are unlikely to be prevented despite the ban on midday work.

Moving forward, the mission of policy-making and implementation of heat protection measures must consider the following key elements:

- **Saving lives:** Extreme temperatures can kill. And even when there are no fatalities, these hot temperatures can lead to injuries and lifelong disabilities. Science-driven heat standards are needed to promote lifesaving interventions for millions of migrant workers in Kuwait and around the world.
- **Communicating risk:** Better communication channels

need to be established between policymakers and those who are concerned about climate risks. This can be done through meaningful involvement of embassies, civil society organizations, media, international organizations, and government bodies in Kuwait. It is essential to recognize the diversity among migrants and identify the most vulnerable subgroups (e.g., most at-risk job categories).

- **Closing the gap on climate inequity:** In the Gulf, many migrant workers died in the prime of their lives to build fancy buildings and structures. Their deaths provide a vivid and upsetting wake-up call to better address currently avoidable risks for migrant workers. In the absence of more effective policies and interventions, health inequities will grow, and result in less-advantaged migrant workers bearing greater harms from excess heat exposure. General education should be made more equitable by incorporating awareness of vulnerable communities, community engagement studies, and disparities in school curriculums, especially for medical schools and residency programs.
- **Coordinating and collaborating internationally:** In disseminating findings, elements of an effective risk-based standard must be communicated to the ILO and WHO and other key stakeholders to inform more effective policies within countries and regional jurisdictions. An international or local cost-benefit analysis can determine the economic burden of heat on the country's workforce, especially migrant labor. Measures such as productivity loss in hours or dollars when taken into account may provide more incentives to enforce safe and productive heat standards.
- **Accountability:** The lack of accountability for the heat-related deaths of migrant workers is a complex issue that stems from several factors. These include inadequate legal protections, socio-economic exclusion, lack of representation and unionization, as well as a lack of political will and inaction on the part of host and home governments. This results in a situation where the health and well-being of migrant workers is not properly addressed. It is important to recognize that ensuring the health of migrant workers is a collective responsibility that should be shared by various stakeholders, including the governments of host and home countries, the employers who hire them, and international organizations. Without concerted efforts from all these parties, it will remain difficult for migrant workers to access justice and protection.

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