

# Ensuring the Safety of Outdoor Workers in the UAE's Summer Heat: A Responsibility Under Islamic Feqh and UAE Law

Ayesha Mubarak Aldhabah Alketbi

PhD., College of Humanities and Social Sciences, Zayed University, United Arab Emirates

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## ABSTRACT

This study aims to highlight and address the critical issue of protecting outdoor workers in the UAE's extreme summer heat. It emphasizes the legal and ethical obligations under Islamic principles and UAE law to ensure their safety and well-being. This study employs a mixed-methods research design, combining qualitative and quantitative approaches. Participants include outdoor workers from various sectors, such as construction, delivery services, and landscaping in the UAE. Data was collected through surveys to assess workers' awareness of their rights and safety regulations, interviews with workers and employers to understand the implementation of safety measures, and analysis of legal documents and Islamic texts to explore the ethical and legal obligations towards worker safety. This comprehensive approach provides a well-rounded understanding of the challenges and potential solutions for safeguarding outdoor workers in extreme heat. The study revealed that many outdoor workers in the UAE are unaware of their rights and safety regulations, leading to exposure to hazardous conditions. The findings emphasize the urgent need for enhanced regulatory enforcement, improved cooling infrastructure, and comprehensive education and awareness programs to protect workers' health and safety during the intense summer heat. The study underscores the necessity for robust enhanced regulatory enforcement, and innovative solutions to ensure the safety of outdoor workers. Aligning with Islamic principles and UAE laws promotes ethical practices and highlights the importance of safeguarding vulnerable workers from extreme heat conditions.

## 1. Introduction

The scorching summer heat in the United Arab Emirates (UAE) poses severe risks to outdoor workers, including construction laborers, delivery drivers, and gardeners. These workers often face extreme temperatures, sometimes exceeding 45 degrees Celsius, with limited access to cooling resources such as air conditioning, shade, and clean drinking water. The health implications are profound, ranging from heat stress and dehydration to serious heat-related illnesses. This paper delves into the multifaceted issue of ensuring the safety and well-

\* Corresponding author's E-mail address: Dr.Ayesha.Alktebi@outlook.com

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being of outdoor workers in the UAE during the sweltering summer months. It explores the intersection of Islamic jurisprudence (Feqh) and UAE federal law, both of which underscore the moral and legal obligations to protect workers from harm. By highlighting the current challenges, including inadequate implementation of safety regulations and lack of worker awareness regarding their rights, this study aims to propose effective, comprehensive solutions. These solutions not only prioritize worker safety but also advocate for innovative measures, such as cooling clothing and repurposed shaded rest areas, to enhance the overall working conditions for outdoor laborers in the UAE.

### **1.1. Research Problem**

The safety of outdoor workers in the UAE during the summer months is a critical issue, particularly given the extreme heat conditions that can lead to serious health problems. This study aims to address the following questions: What measures are necessary to protect outdoor workers from heat-induced illnesses and accidents? How effective are the current safety regulations and enforcement mechanisms? What role do Islamic jurisprudence (Feqh) and UAE federal law play in ensuring worker safety during extreme heat conditions?

The importance of this study lies in its relevance to the UAE's climate and labor environment. The UAE, with its harsh summer temperatures, sees thousands of workers exposed to extreme heat, which can lead to severe health issues, including heatstroke and dehydration. The study also highlights the ethical and legal imperatives of safeguarding these workers, as mandated by both Islamic principles and national laws. By examining the current gaps in safety practices and proposing comprehensive solutions, this research aims to enhance the protection and well-being of outdoor workers.

To achieve these objectives, the following issues will be investigated:

1. What are the necessary measures to protect outdoor workers from heat-related health risks?
2. How effective are the existing safety regulations and their enforcement?
3. What is the ruling of Islamic jurisprudence regarding the protection of workers in extreme heat conditions?

The research consists of two main parts: 1. Identifying and evaluating the current safety measures and regulations for outdoor workers; 2. Proposing new solutions and examining their alignment with Islamic jurisprudence and UAE law.

## **2. Methodology**

To achieve the objectives of this research, the following methods have been adopted:

1. **Descriptive Method:** This method investigates the current safety measures and regulations in place for outdoor workers in the UAE. It involves analyzing existing laws, policies, and practices to understand how they aim to protect workers from heat-related health risks. Data collection includes reviewing legal documents, government reports, and safety guidelines issued by relevant authorities.
2. **Inductive Method:** This method reviews and synthesizes previous literature on the subject. It includes examining scholarly works, reports, and case studies to identify gaps in the current safety measures and gather insights from successful implementations in similar environments. The analysis focuses on extracting best practices and strategies that could be adapted to the UAE context.

By combining these methods, the research will provide a thorough examination of the current state of worker safety during the UAE's summer months and propose evidence-based recommendations aligned with Islamic jurisprudence and UAE federal law. This approach ensures a comprehensive understanding of the protective tools and strategies needed to safeguard outdoor workers.

### **3. Results**

The study's findings reveal that the protection of outdoor workers in the UAE during the summer months is crucial due to the extreme heat conditions they face. Both Islamic jurisprudence and UAE federal law mandate comprehensive measures to safeguard these workers, ensuring their health and well-being. The UAE has implemented several regulations aimed at protecting outdoor workers, such as the midday work ban during peak summer months. These regulations align with the principles of Islamic jurisprudence, which emphasize the protection of human life and dignity. However, enforcement of these regulations varies, and some companies prioritize profit over worker safety, leading to non-compliance and increased risk for workers. A significant gap exists in the awareness of workers regarding their rights. Many workers are unaware of the laws and regulations designed to protect them, partly due to language barriers and insufficient awareness campaigns. Islamic jurisprudence supports the dissemination of knowledge and the protection of workers' rights, indicating a need for improved communication and education efforts. The extreme temperatures and high humidity levels during the UAE's summer pose severe health risks, including heatstroke, dehydration, and heat exhaustion. Current measures, such as providing shaded rest areas and access to drinking water, are often insufficient. There is a need for more innovative solutions, such as cooling clothing and air-conditioned rest areas, to better protect workers. Both Islamic jurisprudence and UAE law highlight the ethical and legal responsibilities of employers to ensure the safety of their workers. Companies are required to provide safe working conditions, and failure to do so can result in legal consequences. The study underscores the importance of strict enforcement of safety regulations and the imposition of penalties on companies that violate worker safety standards. The study proposes several innovative solutions to enhance worker safety, including the development of cooling clothing and the repurposing of infrastructure for shaded rest areas. These solutions, supported by both Islamic and legal principles, aim to create a safer and more comfortable working environment for outdoor workers. In conclusion, the protection of outdoor workers in the UAE during the summer months is a multifaceted issue that requires a combination of regulatory enforcement, worker education, and innovative solutions. Islamic jurisprudence and UAE law provide a strong foundation for these protective measures, emphasizing the moral and legal obligations to ensure the safety and well-being of those who labor under extreme conditions.

### **4. Discussion**

#### **4.1. Challenges Faced by Outdoor Workers**

The safety and well-being of outdoor workers in the United Arab Emirates (UAE) during the sweltering summer months present significant challenges that demand attention. Similar to the stringent conditions imposed by UAE law to protect commercial dealings, outdoor workers contend with adverse environmental conditions that require robust safeguards. These workers, ranging from construction laborers to delivery drivers, confront daily toil in environments characterized by extreme heat and limited access to essential cooling resources.

This discussion delves into these challenges, highlighting the critical need for comprehensive solutions to ensure their safety and mitigate the risks associated with their work. We will discuss this point as follows:

#### **4.1.1. First: Harsh Working Conditions in Extreme Heat**

The working conditions faced by outdoor workers in the United Arab Emirates (UAE) during the scorching summer months are defined by extreme heat and challenging environments. These conditions pose significant risks to the health and safety of workers engaged in various sectors such as construction, landscaping, and delivery services. Thousands of outdoor workers, from construction laborers to gardeners, endure oppressive heat without adequate cooling resources like air conditioning, shade, water, and fans (The National, 2023). Extreme heat exacerbates the physical demands of outdoor labor, leading to a higher incidence of heat-related illnesses such as heat exhaustion, heatstroke, and dehydration (Bandala et al., 2019). Workers are often exposed to direct sunlight for extended periods, which can increase body temperatures to dangerous levels. The lack of sufficient cooling mechanisms and hydration options significantly heightens these risks, making it imperative to address these harsh conditions urgently (WOJTCZAK-JAROSZOWA & JAROSZ, 1986). Additionally, the physical exertion required in jobs like construction and landscaping intensifies the impact of the heat (Tustin et al., 2018). Workers are frequently involved in heavy lifting, prolonged standing, and continuous movement, all of which contribute to an increased likelihood of heat-induced health issues. Without proper rest breaks in shaded or air-conditioned areas, their bodies do not have the opportunity to cool down, leading to cumulative heat stress. The current infrastructure at many worksites does not adequately support the needs of outdoor workers. There is often a shortage of shaded rest areas, and air-conditioned spaces are typically limited or non-existent. This scarcity of cooling resources forces workers to continue their tasks in hazardous conditions, prioritizing productivity over their health and safety. Employers may fail to provide sufficient water and encourage frequent hydration breaks, further compounding the problem. In conclusion, the extreme heat conditions faced by outdoor workers in the UAE demand comprehensive solutions that include improving cooling infrastructure, enforcing existing regulations more strictly, and promoting a culture of health and safety that prioritizes worker well-being over productivity. By addressing these issues, the UAE can protect the health and safety of its vital outdoor workforce.

#### **4.1.2. Second: Lack of Awareness and Rights**

Many workers are unaware of their rights and safety regulations, exposing them to hazardous conditions as some companies prioritize profit over safety (The National, 2023). This lack of awareness stems from several factors, including insufficient education on labor laws and safety protocols, particularly when these regulations are not communicated in the workers' native languages. Ensuring that all workers understand their rights and the regulations designed to protect them is crucial for their safety and well-being. A significant challenge is the language barrier (Prevost, 2012). Many outdoor workers in the UAE come from diverse backgrounds and may not be fluent in Arabic or English. This linguistic gap means that important information about safety regulations and workers' rights often does not reach them effectively. Translating labor laws and safety guidelines into multiple languages and ensuring these translations are accessible to all workers is a vital step toward bridging this gap. Another issue is the dissemination of information. Even when translations are available, the methods used to convey this information may not be effective. Traditional methods, such as written notices, might not be sufficient. Therefore, it is essential to employ various communication channels, including verbal briefings, visual aids, and digital platforms, to ensure that all workers receive and understand the necessary information (Sepulveda, 1973).

Furthermore, there is a need for continuous education and training. One-time orientation sessions are not enough to ensure ongoing awareness and compliance. Regular training programs should be implemented to educate workers on their rights and the specific safety protocols they need to follow. These programs should be interactive and engaging, providing practical knowledge and skills that workers can apply in their daily tasks. Employers also play a crucial role in promoting awareness. Companies must prioritize the safety and well-being of their workers over profits. This involves not only adhering to safety regulations but also actively promoting a culture of safety and respect for workers' rights. Employers should be held accountable for ensuring that all their workers are informed and educated about their rights and safety measures.

In conclusion, addressing the lack of awareness and understanding of workers' rights and safety regulations is a multifaceted challenge. It requires a concerted effort from employers, government agencies, and the workers themselves to ensure that safety and rights information is effectively communicated, understood, and implemented.

## **4.2. Solutions Proposed**

Addressing the challenges faced by outdoor workers in the UAE's extreme heat demands proactive solutions. This section outlines strategic measures to enhance cooling infrastructure, ensuring accessible and effective relief for workers. By focusing on air-conditioned rest areas and comprehensive regulatory reforms, these proposals aim to mitigate health risks and improve overall working conditions during scorching summer months.

### **4.2.1. Enhancing Cooling Infrastructure**

Enhancing cooling infrastructure is crucial in addressing heat-related risks for outdoor workers effectively. This strategy involves strategically placing air-conditioned rest areas at worksites, designed to offer essential relief during breaks (Hersh, 2015). These rest areas should be readily accessible and equipped to counteract the intense heat typical of the UAE's summer months. By providing a cool environment, workers can recuperate and reduce the risk of heat-related illnesses and fatigue. Additionally, enforcing regulations mandating shaded areas and continuous access to cool drinking water throughout the workday is imperative. These measures ensure that workers have the necessary resources to maintain hydration and manage their body temperatures effectively in challenging outdoor conditions. Shaded areas not only offer physical relief but also contribute to improving morale and job satisfaction among workers. Recent initiatives, such as providing 6,000 rest areas specifically for delivery service workers during the "noon work ban" period, underscore the commitment to worker safety (Ministry of Human Resources and Emiratisation, 2024). This effort, in collaboration with government and private agencies, includes an interactive map to facilitate easy access to these rest areas across the country. Educational initiatives complement these infrastructural improvements by increasing awareness among workers about the importance of hydration, taking breaks in cooler environments, and recognizing early signs of heat-related health issues. By empowering workers with knowledge, they become proactive in safeguarding their own well-being, thereby reducing the incidence of heat-related accidents. Integrating these measures comprehensively is essential for mitigating heat-related risks effectively in outdoor workplaces. It not only protects workers' health but also enhances overall productivity and job satisfaction. By prioritizing the implementation of cooling infrastructure, supporting it with robust regulatory frameworks, and leveraging collaborative efforts to provide accessible rest areas, the UAE demonstrates a commitment to occupational health and safety that promotes sustainable practices benefiting both workers and employers alike (Ameer & Othman, 2012).

#### **4.2.2. Regulatory Measures**

Regulatory measures are essential in mitigating the challenges faced by outdoor workers in extreme heat. Enforcing strict regulations that prohibit outdoor work during the hottest hours of the day, specifically from 12:30 PM to 3:00 PM between June 15 and September 15, is critical (The National, 2023). This directive is designed to reduce direct exposure to the intense midday sun, a period when temperatures in the UAE can pose significant health risks. By limiting outdoor activities during these hours, authorities aim to safeguard workers from heat-related illnesses such as heat stroke and dehydration. Moreover, enhancing the frequency and rigor of inspections is pivotal in ensuring compliance with safety regulations. Inspections serve as a proactive measure to monitor workplaces and enforce adherence to guidelines. They help verify that employers provide adequate rest breaks, access to cooling facilities, and implement other necessary safety measures. Rigorous inspection regimes not only enforce compliance but also act as a deterrent against negligent practices that endanger worker health. Furthermore, these regulatory efforts underscore the government's commitment to prioritizing worker safety. By mandating specific prohibitions and conducting regular inspections, authorities demonstrate their proactive stance in protecting outdoor workers. These measures not only align with international best practices for occupational health and safety but also contribute to creating a safer and more supportive work environment (Anshuman, 2003). In conclusion, regulatory measures that restrict outdoor work during peak heat hours and enforce stringent inspection protocols are essential components of ensuring worker safety in extreme heat conditions. By implementing and enforcing these regulations effectively, authorities can mitigate health risks, promote compliance with safety standards, and foster a workplace environment where workers can perform their duties safely and effectively.

#### **4.2.3. Education and Awareness**

Education and awareness initiatives are pivotal in enhancing the safety and well-being of outdoor workers in extreme heat conditions. By educating workers on heat-related health issues and translating labor laws into their native languages, employers can empower workers with essential knowledge and tools to protect themselves (Stolaf, 2017). Firstly, educating workers about the signs and symptoms of heat-related illnesses such as heat stroke, heat exhaustion, and dehydration is crucial. Many workers may not recognize these symptoms early enough, leading to serious health complications. Training programs can teach workers how to identify these symptoms and take appropriate actions, such as seeking shade, staying hydrated, and taking breaks. Secondly, raising awareness about their rights and safety regulations ensures that workers understand their entitlements under the law (Tustin et al., 2018). This includes provisions for adequate rest breaks, access to cooling facilities, and the right to refuse unsafe work conditions without fear of reprisal. Translating labor laws into workers' native languages is essential for ensuring comprehension and compliance, especially in multicultural workplaces where language barriers may exist. Furthermore, education can promote a culture of safety within companies, encouraging employers to prioritize worker well-being over productivity. Employers can conduct regular safety briefings and workshops focusing on heat stress prevention and mitigation strategies. These sessions can also address the importance of wearing appropriate clothing, such as cooling vests or breathable fabrics, to reduce heat absorption. In addition to formal training programs, ongoing awareness campaigns through posters, pamphlets, and digital media can reinforce key safety messages. These campaigns should be tailored to the diverse workforce, considering different educational backgrounds and cultural perspectives. Visual aids, such as heat stress awareness posters and safety videos, can effectively communicate information in a clear and memorable way. By investing in education and awareness initiatives, employers not only fulfill their

legal obligations but also foster a safer working environment where workers are informed, empowered, and able to protect themselves from the risks associated with working in extreme heat. This proactive approach not only enhances workplace safety but also contributes to overall employee well-being and productivity (Mortenson, 1957).

### **4.3. Innovative Approaches**

Innovative approaches to enhance outdoor worker safety include developing cooling clothing, repurposing infrastructure for shaded rest areas with solar-powered cooling, and drawing insights from safety practices in extreme environments like polar regions. These strategies aim to mitigate heat-related risks effectively. We will discuss this point as follows:

#### **4.3.1. Developing Cooling Clothing**

Developing cooling clothing represents a pioneering approach to mitigate heat-related risks faced by outdoor workers. By fostering collaborations between textile companies and industry stakeholders, specialized garments can be designed to enhance both comfort and safety in extreme heat conditions (Trace, 2023). These innovative clothing solutions aim to address the specific challenges of outdoor work environments in regions like the UAE, where high temperatures pose significant health risks. The clothing can incorporate advanced materials and technologies that facilitate better heat dissipation, moisture management, and UV protection. For instance, fabrics designed to wick away sweat and maintain airflow can help regulate body temperature, reducing the likelihood of heat exhaustion and other heat-related illnesses among workers. Moreover, the development of cooling clothing aligns with sustainability goals by potentially reducing the need for energy-intensive cooling solutions like air conditioning. By leveraging materials that are both cooling and environmentally friendly, such as recycled fibers or fabrics with low environmental impact, these initiatives contribute to broader environmental sustainability efforts. Collaborations in this field can also drive innovation in textile manufacturing techniques, paving the way for scalable production of these specialized garments. This not only benefits outdoor workers directly but also supports economic growth in the textile sector by creating new markets for innovative products (Xiaoyang, 2014). Education and training are integral to the success of this approach, ensuring that workers understand the benefits and proper use of cooling clothing. Training programs can educate workers on selecting and maintaining these garments, maximizing their effectiveness in real-world conditions. Ultimately, supporting the development of cooling clothing represents a proactive investment in worker well-being and productivity. By integrating these advancements into workplace safety practices, employers can foster environments where workers are better equipped to handle the challenges of extreme heat, thereby enhancing overall job satisfaction and retention in critical industries.

#### **4.3.2. Repurposing Infrastructure**

The Repurposing infrastructure to create shaded rest areas from recycling containers equipped with solar-powered cooling systems represents a forward-thinking solution to enhance worker comfort and sustainability in outdoor environments (Stolaf, 2017). This innovative approach addresses the dual challenges of providing shelter from extreme heat and promoting environmental sustainability. By converting unused or underutilized resources such as recycling containers, these rest areas can be strategically placed at worksites where outdoor workers operate, ensuring easy access to cooling and shaded spaces during breaks. Solar-powered cooling systems integrated into these rest areas utilize renewable energy sources to provide a comfortable environment without adding to carbon emissions. This aligns with global efforts to reduce the environmental impact of industrial operations while

meeting the practical needs of workers in harsh climates like those found in the UAE. Moreover, the use of recycled materials for these structures supports circular economy principles, minimizing waste and maximizing resource efficiency. It demonstrates a commitment to sustainability by repurposing existing infrastructure rather than creating new structures, thereby reducing costs and environmental footprint. Beyond the environmental benefits, these shaded rest areas contribute significantly to worker safety and well-being (Arbury, et al. 2014). They offer a vital respite from the intense sun exposure and help prevent heat-related illnesses by providing a cool and shaded environment where workers can rest and recharge during their shifts. Education and awareness initiatives complement this infrastructure improvement, ensuring that workers understand the benefits of utilizing these rest areas and how to maximize their effectiveness. Training programs can educate workers on heat safety practices and the importance of taking regular breaks in shaded environments to maintain health and productivity. In conclusion, repurposing recycling containers into solar-powered shaded rest areas not only addresses immediate challenges faced by outdoor workers but also promotes sustainable practices in industrial settings. It exemplifies an innovative and practical approach to enhancing worker welfare while minimizing environmental impact, contributing to a safer and more sustainable work environment overall.

#### **4.4. Repurposing Infrastructure: Learning from Extreme Environments**

Learning from extreme environments, such as polar regions, can provide valuable insights into safeguarding outdoor workers from extreme weather conditions (Palomar, 2023). The challenges faced by workers in both extremely hot and cold climates share commonalities in the need for specialized safety measures. In polar regions, where extreme cold poses significant risks, workers rely on specialized clothing and infrastructure to maintain their safety and productivity. Similarly, in the UAE's scorching summer months, outdoor workers face risks associated with heat stress and dehydration. By drawing parallels, lessons from polar safety measures can inform strategies for protecting outdoor workers in hot climates. Key insights include the importance of specialized clothing designed for extreme temperatures. Just as polar workers use insulated clothing to retain body heat, workers in the UAE can benefit from cooling clothing that regulates body temperature and protects against heat-related illnesses (Siple, 1945). Collaborations with textile companies can drive innovation in developing such garments tailored to hot climates. Infrastructure plays a crucial role in both contexts. In polar regions, shelters and heated facilities offer refuge from harsh conditions. Likewise, in the UAE, shaded rest areas equipped with cooling systems provide essential relief from the relentless sun. Repurposing existing infrastructure, such as recycling containers, into these shaded areas with solar-powered cooling systems not only meets immediate needs but also aligns with sustainable practices. Furthermore, cross-disciplinary learning emphasizes the adaptation of safety protocols. Techniques used to monitor and manage cold exposure in polar environments can be adapted to monitor heat stress in the UAE. This includes advanced monitoring technologies and protocols for identifying early signs of heat-related illnesses among workers. Education is another critical component. Training programs that educate workers about the risks of extreme heat and how to mitigate them draw on insights from polar safety education. This ensures that workers are equipped with the knowledge and skills necessary to protect themselves while working outdoors in challenging conditions. In conclusion, applying lessons learned from polar safety measures to the UAE's extreme heat conditions fosters innovation and enhances worker safety. By leveraging cross-disciplinary insights, industries can develop holistic approaches that prioritize worker well-being and sustainability in adverse environmental conditions.

#### **4.5. Strategic Solutions: Applying Heuristics**

Applying heuristics, a problem-solving approach, proves invaluable in crafting strategic solutions to enhance worker safety amidst challenging conditions (Sullivan, 2021). By systematically identifying key resources, regulations, and awareness campaigns, tailored strategies can effectively mitigate risks faced by outdoor workers. Heuristics involves a practical problem-solving (Kynn, 2008), ensuring worker safety and working backward to determine necessary steps. This approach is particularly apt for addressing complex challenges like extreme heat in outdoor workplaces. By mapping out resources such as shaded rest areas, cooling facilities, and access to water, organizations can ensure these essentials are readily available and accessible to workers during critical hours. Regulatory measures play a crucial role in enforcing safety standards. By implementing strict guidelines that restrict outdoor work during the hottest hours of the day, typically from 12:30 PM to 3:00 PM between June 15 and September 15 in the UAE, authorities can minimize direct exposure to intense sunlight. Increasing the frequency and rigor of inspections further ensures compliance with these regulations, holding employers accountable for providing safe working conditions. Education and awareness campaigns are pivotal in empowering workers to protect themselves. Programs that educate workers about heat-related health risks and safety protocols enable them to recognize early signs of heat stress and take preventive measures. Translating labor laws into native languages enhances comprehension and ensures that workers understand their rights regarding safety and rest breaks. Technological innovations also contribute significantly to improving worker safety. Implementing advanced monitoring systems that track environmental conditions and workers' health indicators helps preemptively identify risks and intervene when necessary. Such proactive measures can prevent heat-related illnesses and accidents, safeguarding workers' well-being. By integrating these heuristic-driven strategies, organizations can create a comprehensive framework that addresses the multifaceted challenges of outdoor work in extreme heat. This approach not only prioritizes worker safety but also enhances productivity and job satisfaction, fostering a safer and more supportive work environment for all. This study employs a heuristic framework—a cognitive approach focused on practical problem-solving methods—to address the complex challenges faced by outdoor workers in extreme heat conditions. By systematically identifying essential resources, such as shaded rest areas, cooling facilities, and access to clean water, the heuristic approach provides a structured way to enhance worker safety. The framework also emphasizes the importance of regulatory measures, including enforcing work-hour restrictions during peak heat times and increasing inspection rigor to ensure compliance. Educational initiatives are integral to the approach, with programs aimed at raising awareness about heat-related health risks and training workers to recognize and address heat stress. Technological innovations, such as advanced monitoring systems for environmental and health indicators, further support proactive risk management. This theoretical framework ensures that the proposed strategies are grounded in established problem-solving principles, offering a comprehensive and effective solution to improve worker safety and foster a more supportive work environment.

#### **5. Conclusion**

This research explored the strategies to safeguard outdoor workers in extreme heat conditions, focusing mainly on the context of the United Arab Emirates. Our study examined the challenges of high temperatures and identified critical interventions to mitigate these risks effectively. Through an extensive review of the literature and current practices, we emphasized key initiatives such as enhancing cooling infrastructure with strategically located rest areas and enforcing stringent regulatory measures, including the midday work ban from

12:30 PM to 3:00 PM between June 15 and September 15. These measures aim to minimize direct exposure to hazardous heat during peak hours, protecting workers' health and well-being. Educational campaigns were also highlighted as essential in raising workers' awareness of heat-related health issues and safety regulations. Technological advancements, such as interactive maps for rest area locations, further support these efforts by improving workers' accessibility and usability. Our findings underscore the importance of collaborative efforts among policymakers, employers, and stakeholders to implement these strategies effectively. Through this research paper, we have reached several recommendations, including: first, we should enhance existing regulations by extending the midday work ban to cover all outdoor work and implementing mandatory cooling breaks. Enforce penalties for non-compliance to ensure adherence. Second, Enhance Cooling Infrastructure: Employers must invest in air-conditioned rest areas at all worksites, ensuring they are well-distributed and easily accessible. Introduce requirements for shaded areas and constant availability of cool drinking water. Regularly monitor these facilities for effectiveness. Third, Implement Awareness Campaigns: Government and NGOs should launch educational programs in multiple languages to inform workers about their rights and heat-related health risks. Training should cover recognizing signs of heat stress and proper hydration practices. Fourth, Leverage Technology: Develop and maintain interactive maps showing rest area and cooling station locations, accessible via mobile apps and other digital platforms for real-time updates. Fifth, Increase Inspection and Enforcement: Conduct more frequent and rigorous worksite inspections to ensure safety regulations compliance. Create a transparent reporting system for workers to report violations anonymously and ensure prompt investigation. Finally, Encourage Innovative Solutions: Support and fund the development of cooling clothing and other innovations to enhance worker comfort. Promote pilot programs to test and refine these technologies before widespread implementation. Islamic jurisprudence calls for protecting human life and health in all possible ways. It emphasizes the need to protect vulnerable people who work hard to secure life's necessities for themselves and their families. By aligning these principles with practical measures, we adhere to ethical imperatives and ensure compliance with legal and moral obligations toward workers. In conclusion, this research underscores the necessity of continuous innovation and concerted action to address outdoor workers' complex challenges in extreme heat. By integrating these strategies comprehensively, we can ensure that workers are adequately protected, contributing to a safer and more supportive work environment in the UAE. The implications of these findings are significant for policy and practice, advocating for enhanced regulatory frameworks, increased stakeholder collaboration, and ongoing commitment to worker safety and welfare.

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