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Heatwaves in Burkina Faso

Africa has long grappled with the vulnerability to severe weather phenomena, including floods, heatwaves, heavy rainfall and droughts. The impacts of weather and climate change have become increasingly frequent and intense worldwide, and Africa, as a particularly susceptible continent, has borne the brunt of these devastating effects. This paper directs its focus toward Burkina Faso, a landlocked nation in Western Africa, bordered by Mali to the northwest, Niger to the northeast, Benin to the southeast, Togo and Ghana to the south and the Ivory Coast to the southwest. Burkina Faso boasts an estimated population of 20,321,378 and is centered around its capital and largest city, Ouagadougou (World Population Review, 2021).

The country is at risk to numerous natural hazards such as heat waves, drought, epidemic, floods, windstorms, etc. The threats listed above hamper the development of the country and contribute to land degradation, desertification, food insecurity and negative migration which has in turn resulted in negative migration. The hazards are more vulnerable because the of the high dependence of the country on agriculture. (World Bank, 2021).

The climate in Burkina Faso is primarily tropical, characterized by two distinct seasons. The rainy season, lasting approximately four months from May/June to September, delivers between 600 and 900 mm (23.6 and 35.4 in) of rainfall. The dry season is marked by the harmattan, a hot, dry wind originating from the Sahara. This seasonality varies in the northern regions of the country. Burkina Faso can be classified into three climatic zones: the Sahel, the Sudan-Sahel and the Sudan-Guinea. The Sahel region in the north typically receives less than 600 mm (23.6 in) of rainfall annually and experiences high temperatures ranging from 41°F to 117°F.

In recent years, Burkina Faso has faced a growing challenge with extreme temperatures, reaching as high as 84.67°F. These temperature extremes have put the livelihoods of the predominantly agrarian population at risk. The primary contributor to the surge in extreme heatwaves in sub-Saharan Africa is attributed to climate change driven by the combustion of greenhouse gases (Sinyosi, 2023).

The consequences of these extreme heatwaves are profound, leading to a surge in heat-related illnesses and fatalities, crop failures and livestock losses due to prolonged droughts and extreme heat. These result in food shortages and skyrocketing food prices, posing a threat to food security. Furthermore, wildfires wreak havoc on ecosystems, leading to the loss of biodiversity.

Infrastructure, such as roads, railways, and power generation, is also susceptible to damage, particularly in areas dependent on hydroelectric power.

According to the WHO, heatwaves can last for several days and can have significant impact such as rise in heat related death on the society. Heatwaves rarely receive adequate attention even though it is one of the most dangerous natural hazards known to man. Between the year 1998 to 2017, over 166,000 deaths have been recorded due to heat related illnesses. Heatwaves are a burden to health especially in Burkina Faso which is also a land-locked country, thus creating a huge strain on water supply, which increases the chances of developing heat related illness such as heat exhaustion, heatstroke, etc.

It is imperative not only to identify the problems stemming from extreme heatwaves but also to formulate strategies to respond to and, if possible, mitigate these issues. Solutions and approaches implemented in Burkina Faso and other sub-Saharan African nations, with support from international communities, include:

- **Early Warning Systems:** Meteorological centers play a pivotal role in early detection and warning, enhancing preparedness for extreme heat events.
- **Reducing Greenhouse Gas Emissions:** Introducing alternative methods of power generation at both household and national levels helps reduce greenhouse gas emissions.
- **Adaptive Measures:** Implementing adaptive measures such as afforestation, proper urban planning to mitigate the impact of extreme heat on social infrastructure, energy-efficient building designs and adopting heat-resilient agricultural practices.
- **International Collaboration:** Collaborating with neighboring nations that have successfully managed extreme heatwaves and engaging with international communities to exchange ideas, resources and strategies.

In conclusion, this report serves as a poignant reminder of the urgent imperative for climate action. It underscores the importance of both short-term adaptation measures and long-term mitigation strategies to safeguard communities, ecosystems, and economies from the escalating threats posed by extreme heat events. As climate change continues its inexorable advance, it is vital that African nations, like Burkina Faso, collaborate with the global community to prioritize resilience and sustainability, thereby minimizing the impacts of future heatwaves.

References

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