

Khartoum

Capturing local knowledge & wisdom to meet local challenges

THE CHALLENGE

Extreme weather events, including flash floods, extreme temperatures, droughts and dust storms, have significantly impacted the capital city of Sudan, Khartoum.

Temperature is the most dominant issue. **Extreme heat poses a threat to the livability and sustainability of cities and disproportionately harms marginalized groups.** The urban heat island effect exacerbates these impacts and is expected to continue to do so in the future.

Due to poor drainage and urban planning, Khartoum is vulnerable to flash floods. In 2013, a flash flood destroyed more than 15,000 homes in Sudan and thousands more were damaged. Agencies reported that approximately 50 people were killed in the disaster. **More recently in 2019 another flash flood affected over 190,000 people in Sudan; 60 people were reported killed and over 34,000 houses were damaged.**

During the last few decades Khartoum has undergone considerable population growth, and as a result part of the green belt of South Khartoum has been converted into residential areas.

This exposes Khartoum to extreme weather events, as there are less trees to provide shade, protection from wind and dust, decreased temperatures through evapotranspiration and to prevent soil erosion from wind and rain.

KEY FACTS & FIGURES

- Khartoum population: 1,974,647.¹
- Mean annual temperatures vary between 26°C and 32°C across the country.
- By 2050 the temperature is expected to increase by 2.6 degrees.²
- Annual rainfall is predicted to rise from 125 mm per year to 152.3 mm per year by 2050.³

¹ World Population Review: <http://worldpopulationreview.com/countries/sudan-population/cities/>. Retrieved 23 January 2020.

² Bastin, J.F. et al., *Understanding Climate Change from a global analysis of city analogues*, PLOS, 2019, <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0217592>

³ Bastin, J.F. et al., *Understanding Climate Change from a global analysis of city analogues*, PLOS, 2019, <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0217592>

- Just south of Khartoum, average annual temperatures are around 27°C, with rainfall averaging about 200 mm/year and rarely exceeding 700 mm/year.⁴

THE SOLUTION

Documentation of local wisdom and climate knowledge

Sudan has a wealth of local climate knowledge that has been passed down through generations and transformed into practices, songs and stories. **This project aims to capture and document local wisdom, knowledge, experiences, insights, practices and beliefs related to climate and adapting to extreme weather events.** This insight will then be used to develop resilient solutions.

Local climate knowledge can be regarded as a reliable source of data as it is often based on cumulative and collective experiences that are checked and validated through different generations.

Local coping mechanisms and nature-based solutions adopted by communities will be highlighted by the team. These solutions will then be integrated into scientific methods and technologies to yield more robust, practical and cost-effective climate resilient policies and interventions, including the development of early warning systems to create resilient agriculture and sustained livelihood systems.

The winning funds from the Climathon Awards will be used to reach different local community groups in Sudan, capturing local climate knowledge through documentary films and publications. Events and campaigns will be set up to scale up successful local techniques in Sudan and worldwide, which will involve mainstreaming local solutions into national plans and projects.

THE BENEFITS

The city will obtain a better understanding of climate change from a local perspective. The project will also help to lay the foundations of climate models which can be integrated into adaptation and mitigation policies and plans. Governments will also benefit, as their plans and projects will become more robust.

The project is expected to help develop robust climate solutions based on local knowledge and practices. It will also support the scaling up of successful practices that have proven to be economically prosperous to other communities with similar contexts. As well as this, local knowledge and practices that have had positive impacts on biodiversity and conservation will be promoted.

⁴ UNDP Climate Change Adaptation, 2019, <https://www.adaptation-undp.org/explore/northern-africa/sudan>

PROJECT LEADERS

The project is led by Talal Mohammed, a researcher from Mutasim Nimir Centre for Environmental Culture (MNCEC) and Razan Nimir, executive manager at MNCEC. The members of the team come from different disciplines.

Local citizens and communities represent the backbone of the project. Municipalities and community-based organisations will partner with the researchers to contribute to the overall aim of the project.

There will be community participation and ownership of strategies and solutions. The project also integrates enabling economies, i.e. business models as a second enabler of action, through framing and developing locally appropriate business models that can withstand changing climate conditions.

CLIMATHON AWARDS

Run by Europe's Largest public-private partnership, EIT Climate KIC in partnership with Crowther Lab, the Climathon Global Awards called for cities around the world to engage in climate action and find new systems level solutions to tackle the worsening climate crisis.

With a vision to transform 100 cities into carbon neutral areas by 2030, the awards challenged cities with tackling major issues including air pollution, efficiency mobility and energy systems, and creating sustainable local economies. With a strong focus on 'systemic innovation', the most successful solutions must encompass both domestic and international governance, policy and the financial and market structures that influence behaviour.

The most visionary innovators have been chosen to attend the Climathon Global Awards Ceremony on 31 January in Paris during the ChangeNOW summit, where all finalists have the chance to win funding and expert support to make their ideas a reality.