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Imperial College London and African Partners Launch Major Climate Resilience Project for African Cities

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Imperial College London, in collaboration with key African partners, today announced the launch of a significant new research initiative aimed at bolstering the climate change resilience of cities across Africa. The £6 million project, funded by Wellcome, is set to substantially enhance urban areas' capacity to withstand the escalating health impacts of climate change.

As the frequency and intensity of extreme weather events continue to rise globally, African cities face unique challenges in managing the consequences of floods, droughts, and heatwaves. The "Climate Change Resilient Equitable Healthy Cities in Africa (CLARITY-Africa)" project will address these critical vulnerabilities.

Led by Professor Majid Ezzati, Academic Director of Imperial Global Ghana – Imperial's first African hub – the research will delve into how changes in temperature, rainfall, humidity, and wind affect population health, urban infrastructure, industry, sanitation, and education. The project will engage closely with local stakeholders, integrating their insights to develop effective strategies and commitments for mitigating climate-induced health risks.

"Climate change will impact society in myriad ways, from physical and mental health to infrastructure and the future of work and learning," stated Professor Ezzati, from Imperial's School of Public Health. "Cities in Africa are among those most vulnerable. This project will create a blueprint for action to build more resilient cities and societies, with applications extending beyond Ghana and Rwanda to the wider continent

and globally.”

The research methodology will involve comprehensive data collection, including real-time monitoring of temperature, water depth, quality, and sanitation, utilizing surveys, sensors, imaging, and satellite data. A particular focus will be placed on understanding the health impacts on vulnerable groups and identifying adaptable technologies and strategies. For instance, the findings are expected to inform the design of future resilient school buildings and outdoor spaces to counter hotter temperatures, and address the challenges faced by outdoor workers exposed to rising daytime heat.

The CLARITY-Africa project will concentrate its efforts in four diverse African cities: Accra and Tamale in Ghana, and Kigali and Musanze in Rwanda. These cities represent a spectrum of urban characteristics, from large coastal centers to smaller inland areas, encompassing both tropical and Sahelian climates. The initiative builds upon prior successful research, such as the effort that established Accra as the African city with the highest density of air pollution sensors.

Madeleine Thomson, Head of Climate Impacts and Adaptation at Wellcome, emphasized the urgency of the research: “Climate change is endangering people’s health worldwide, with already-hot regions facing the biggest threats. Vulnerable populations, including outdoor workers, those on lower incomes, and the elderly, are at increased risk. This research is vital in finding ways to adapt to increasingly frequent heatwaves, floods, and droughts across Africa, with potential lessons for global application.”

The project is a collaborative effort, co-led by academic partners including the African Institute for Mathematical Sciences (AIMS), the University of Ghana, the University of Cape Town, the African Mayoral Leadership Initiative (AMALI), and through the African Urban Research Initiative (AURI) hubs. This multi-faceted partnership underscores a shared commitment to addressing one of the most pressing global challenges.