SUSTAINABLE ENERGY FOR ALL

CHILLING PROSPECTS

2025

CHILLING PROSPECTS

Tracking Sustainable Cooling for All

ACCESS TO COOLING POPULATIONS AT RISK

RURAL POOR

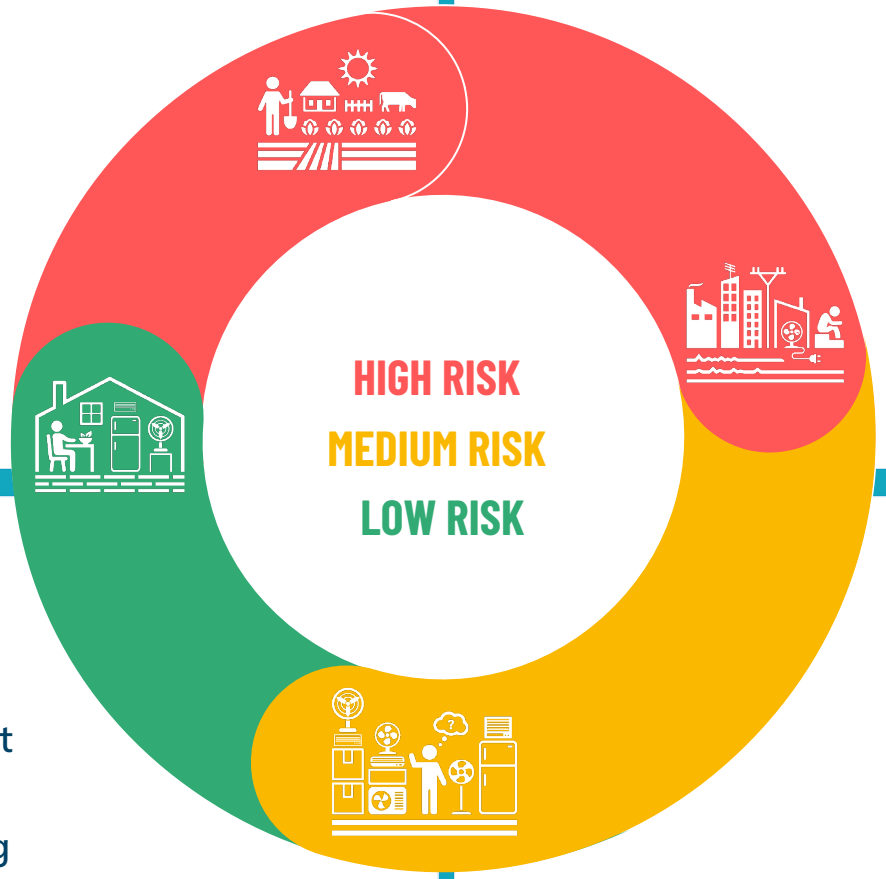
Likely to be subsistence farmers without access to an intact cold chain;

may lack access to electricity and properly stored vaccines.

URBAN POOR

May have some access to electricity, but live in housing of poor quality;

may have a refrigerator, but food often spoils due to intermittent power.



MIDDLE INCOME

May be able to afford a more efficient air conditioner or minimize its use;

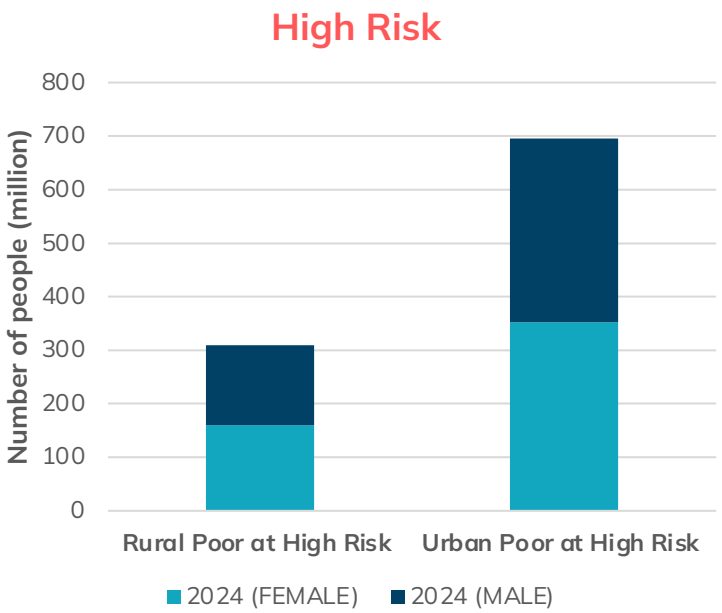
may move to energy efficient housing and working environments.

LOWER-MIDDLE INCOME

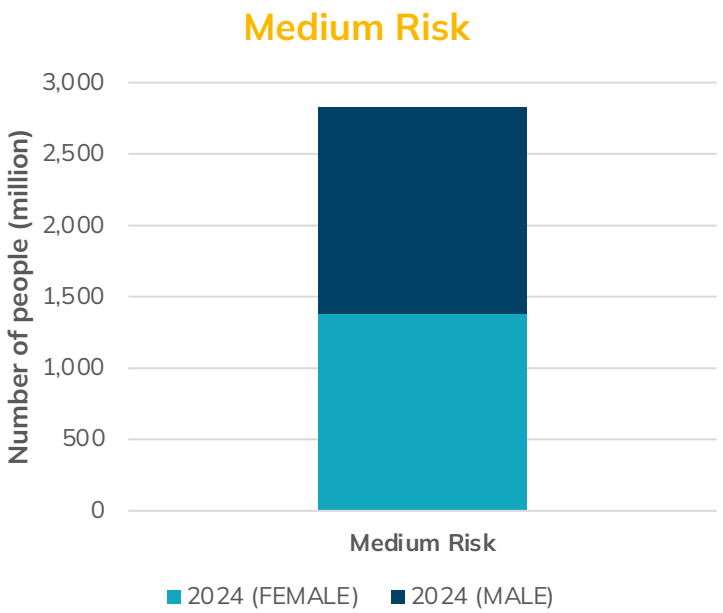
May purchase an affordable thus likely inefficient air conditioner or refrigerator that raises energy consumption and GHG emissions.

COOLING ACCESS RISKS KEY FINDINGS 2025

In 2024, over 1 billion people are at high risk due to a lack of access to cooling, including 309 million rural poor and 695 million urban poor.



An additional 2.83 billion people are at medium risk, facing affordability and sustainability challenges in accessing cooling solutions.



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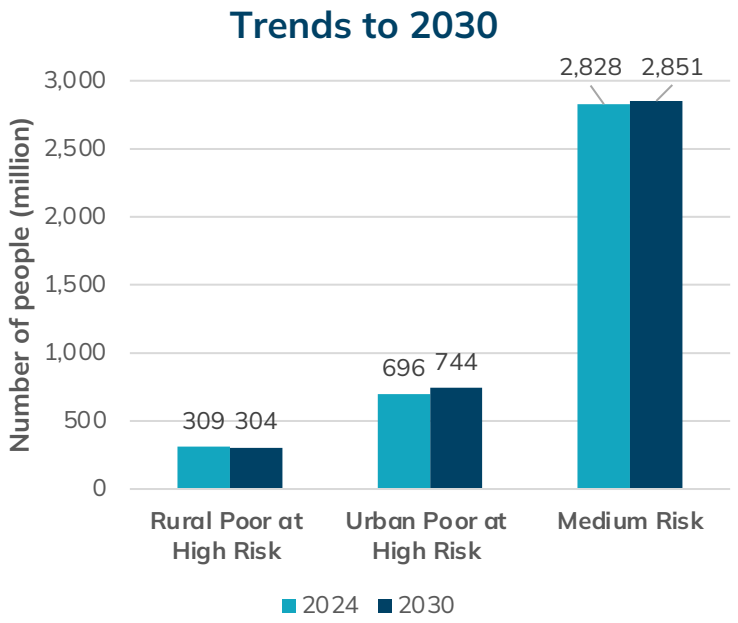
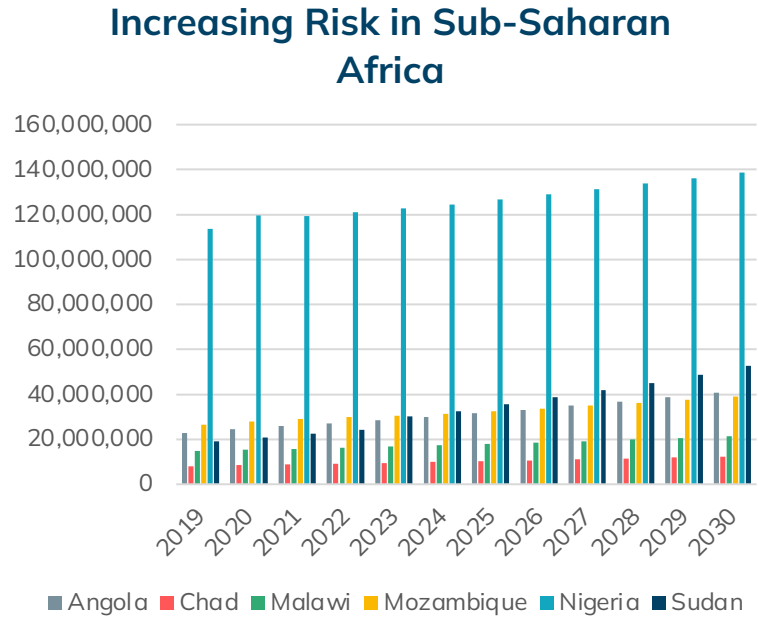
COOLING ACCESS RISKS TRENDS TO 2030

By 2030, the global high-risk population is projected to rise by 43.3 million to 1.05 billion, driven primarily by a 7% increase in the urban poor (an additional 48.5 million), while the rural poor decline slightly to 304.1 million — signalling a shift in vulnerability toward urban areas.



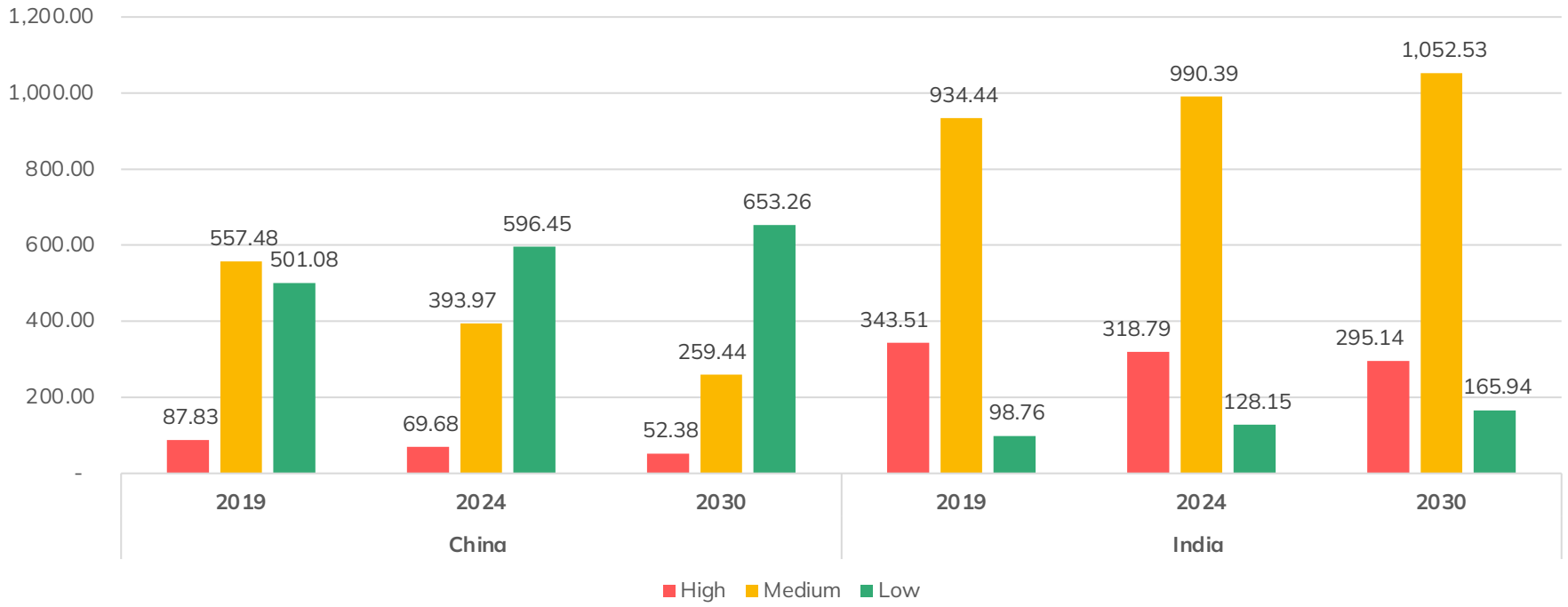
In Sub-Saharan Africa, several countries are expected to see the highest percentage increases in high-risk populations, reflecting persistent energy access and infrastructure challenges.



COOLING ACCESS RISKS SHIFTING RISKS

Medium Risk on Rise: Since 2019, India's medium-risk population has grown by 55 million and is projected to surpass 1 billion by 2030 — reflecting income growth and improved energy access, but posing a major energy systems challenge under rising heat

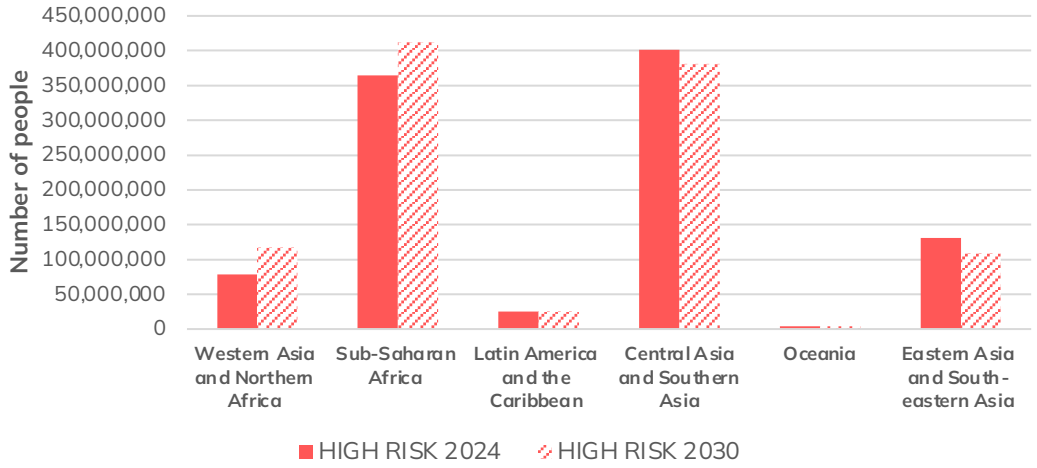
Low Risk on Rise: By 2030, over 650 million people in China will be at low risk — up by 150 million since 2019 — as economic growth and urban development improve access to cooling and reduce heat stress risks.



COOLING ACCESS RISKS REGIONAL TRENDS

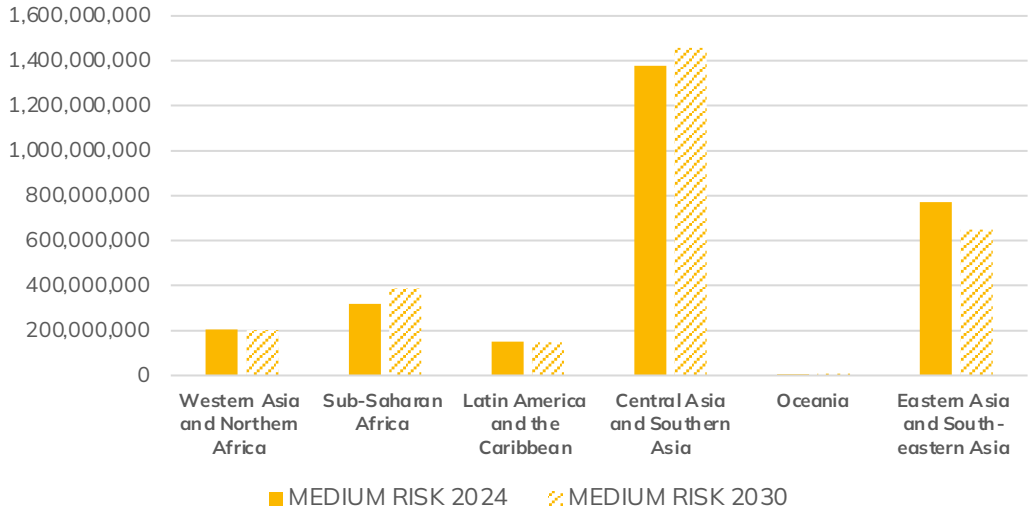
Sub-Saharan Africa continues to have the largest number of people at high risk globally. Under current trends, both urban and rural populations face sustained vulnerability through 2030, driven by rapid population growth, persisting gaps in electricity access, and heat exposure.

REGIONAL TRENDS: HIGH RISK



In Central and Southern Asia, high-risk populations are gradually declining, especially in rural areas. However, most are moving into the medium-risk group, highlighting the need for stronger action to ensure sustainable and efficient cooling access.

REGIONAL TRENDS: MEDIUM RISK

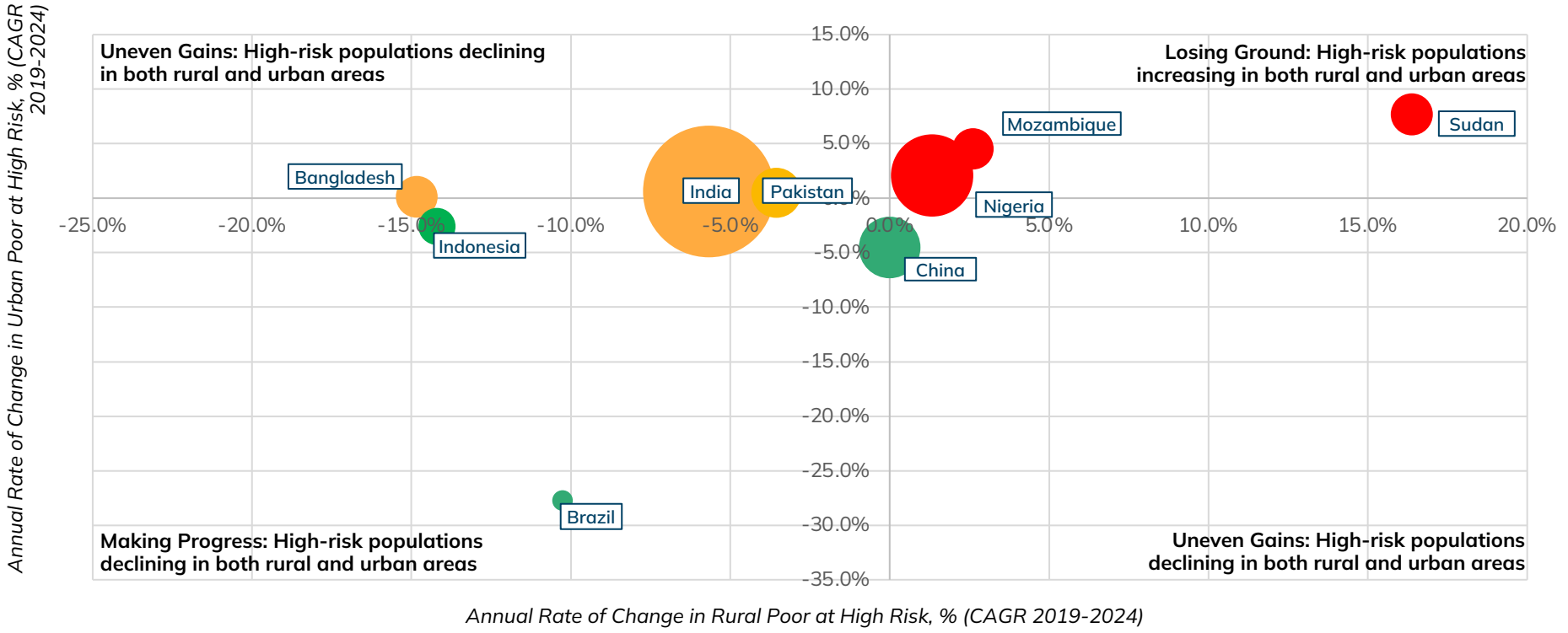


COOLING ACCESS RISKS RISK TRAJECTORIES IN THE CRITICAL 9

Making Progress: China, Brazil, and Indonesia are reducing high-risk populations in both rural and urban areas.

Uneven Progress: Bangladesh, India and Pakistan show rural gains but rising urban risk, reflecting unbalanced progress.

Losing Ground: Mozambique, Nigeria and Sudan is among 26 countries with increasing high-risk populations in both rural and urban areas.



ACCESS TO COOLING COOLING NEEDS AND SOLUTION OPTIMIZATION

THREE COOLING FOR ALL - COOLING NEEDS

1. COMFORT & SAFETY
2. FOOD & NUTRITION
3. HEALTH & CARE

COOLING SOLUTION APPROACH FOR OPTIMIZATION

FOUR COOLING FOR ALL - COOLING SOLUTION PILLARS

1. TECHNOLOGY
2. SERVICES
3. POLICY
4. FINANCIAL

Thank you

Ben Hartley

Programme Manager
Sustainable Energy for All

SEforALL Thanks the Funders of the Sustainable Cooling Programme, including:

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

Austrian Development Agency

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