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Benefits of trees in tropical cities

In their Perspective “The natural capital of city trees” (28 April, p. 374), K. J. Willis and G. Petrokofsky draw attention to the many benefits that urban trees provide to people. However, they neglect tropical cities. The omission is not surprising given that most relevant research has been conducted in North America (1).

Cities in the tropics differ from those in temperate regions not only in climate (2) and ecology (3), but also in human factors such as demography, economic development, and lifestyle (4). These differences affect the demand for urban ecosystem services, the opportunities to provide them, and the challenges of managing city trees. Many people in the tropics, especially the poorest, spend most of their time outdoors; for them, the shade and shelter provided by trees are especially important. Also, tropical cities are generally warmer and experience heavier rainfall, which exacerbates the challenges of the urban heat island and flood risk. Mitigating these effects is therefore likely to be a priority in tropical cities.

Tropical regions have long growing seasons and are among the most biodiverse in the world (3). High tree diversity offers the potential for selecting species that provide multiple benefits and best fulfil local needs. Yet, there remains a substantial knowledge gap concerning the benefits provided by tropical tree species. The species mentioned in the Perspective are mostly broadleaved deciduous or coniferous species that would not grow well in tropical climates. The publicly-available software i-Tree includes tools that allow users to quantify the structure and environmental services of trees, but i-Tree has only been adapted for the United States, United Kingdom, Australia, and Canada (5). Given that some of the world’s fastest growing cities, such as those in Southeast Asia, are in the tropics (6), future research should explore the unique challenges and opportunities of ensuring that they also obtain the full benefits of urban ecosystem services.

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