

**ECOLOGIC**

# Plant More Trees to Help City Stay Cooler

As a rule of thumb, the temperature of a city with over 1 million people can be up to 3 degrees centigrade warmer than surrounding rural areas. The difference in evening temperatures can be as high as 12°C due to absorption of radiation during the day and its release later on

**K**eeping ourselves cool will continue to remain in focus as mercury rises in the coming months. With watermelons flooding sidewalks and buttermilk and water cups being handed out, there is an inherent quest for cool things as we head into April!

For many years, I was a victim of the Urban Heat Island Effect (UHI)! I used to live on the top most floor of my apartment block, and though the folks in the lower floor seemed quite comfortable, it was quite hard for me. My home now is by the beach and has a garden, and it seems as if the ambient temperature is lower. This perhaps can be attributed to the lower density of development and increased green cover.

The green rating systems

for buildings and neighborhoods lay a lot of focus on roof and non-roof treatments to minimise this so called "urban heat island effect".

The term "heat island" describes built-up areas that are hotter than nearby rural areas. As a rule of thumb, the air temperature of a city with a population of over 1 million can be up to 3 degrees centigrade warmer than surrounding rural areas. Sometimes the difference in evening temperatures can be as high as 12°C.

This is due to absorption of sun's radiation by asphalt roads and concrete buildings during the day, and release of the heat stored back into the atmosphere in the evening. During summer, people generally run fans, coolers and air-conditioners to a greater extent. Overworked thermal stations spew more green-



Green rooftop in an apartment block • Express

house gases as energy demand surges. The Heat Island Effect causes communities to bear higher costs for power

and water, and high temperatures affect health and living quality.

If you live on the top floor

and are looking for a quick solution to keep cool this summer, what are your real options? The best solution is to

have landscaped roofs so that heat does not directly get into the roof. To have a green rooftop requires prior planning — the loads required for plants and wet soil need to be fac-

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tored in the structural design calculations — thereby making a green roof difficult to retrofit. The next best thing is to treat the top of the building with a high reflective paint. This has the same effect of wearing white in summer and

not dark shades as the former will keep you cooler.

Similarly, painting the roofs of buildings with a 'high albedo' or white paint (essentially a paint with high solar reflectivity) will bounce the sun's radiation off and reduce the heat seeping into the top floor.

Another alternative is to use white China mosaic on the terrace floor. This is a great choice, as it is aesthetic and can be completed with recycled and often reused material — two aspects of sustainability in one slick move! On the ground, minimal paving and increased tree cover will reduce the heat coming off roads and walkways. So go ahead, plant more trees and help the entire city stay cooler!

*(The writer is an architect, urban designer, dancer and chief designer at Shilpa Architects)*



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