Headline: Heat traps and diminishing green spaces

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With climate change already upon us, abnormal climate and weather conditions are a portent of things to come in our country. In recent years we have been experiencing high heat indices ranging from 37 to 55 degrees C as recorded in the more than 71 climatic stations of the weather bureau Pagasa. High heat indices that cause heat cramps, heat exhaustion and heat stroke are actually caused by the hot and humid easterly winds coming from the Pacific Ocean during the summer months. Pagasa has noted that the stations that record the highest heat indices are usually located in cities. The reason for this has to do with the presence of a large proportion of “heat traps” in cities—i.e., the prevalence of built-up spaces that easily absorb solar radiation. These spaces include buildings, houses, asphalt and cement roads, and other solid manmade structures.

It may be noted that, aside from climate change effects, the increasingly high temperatures in our cities are due to the unregulated conversion of green spaces like parks, playgrounds, forests and grasslands to urban spaces in the process of urbanization. This has created what is called the “heat island effect” that can even exacerbate air pollution problems and energy requirements, among others. Our urban green spaces have been vanishing, and there is no serious effort among local government units to observe the land use planning standard required by the Housing and Land Use Regulatory Board of 0.5 hectares per 1,000 people for play fields or athletic fields.

In 2010, a student of mine conducted a study that measured green spaces and heat spaces in Metro Manila using infrared data. She found out that the remaining green spaces made up only 7 percent of the metropolitan area, and that 1,353 hectares were still needed to meet the land use standard. That study was done seven years ago and, considering Metro Manila’s fast population growth rate of 1.7 percent from 2000 to 2015, even more green spaces could have been lost already to urban development.

Quezon City presents a good case of our fast-disappearing urban green spaces ever since its master plan was approved in 1949. The plan envisioned a grand city park that included the oval-shaped Quezon Memorial Park and the 400-hectare central park that included the Diliman quadrangle bounded by the North, Timog, East and West Avenues. But through many presidential proclamations over the years, the remaining park is an emasculated version of the spacious, grand design it was envisioned to be. Of the quadrangle, we see now only the small and unkempt Ninoy Aquino Parks and Wildlife Center (NAPWC) which is even being eaten up, ironically, by structures of the Department of Environment and Natural Resources. There is still the Quezon Memorial Park, but many trees have given way to structures built, and commercial activities allowed, in it. It’s good that the city government cannot touch the sizable and protected green spaces of the La Mesa Dam Reservoir and the nearby University of the Philippines campus.

Since we can no longer dream of having a grandiose and jealously protected park like New York’s Central Park, London’s Hyde Park, San Francisco’s Golden Gate Park, or Singapore’s Jurong Park, we can at least maintain the NAPWC and rid it of the unnecessary structures set up by the DENR. The least we can do now to prevent our cities from becoming unbearable hot furnaces is to preserve whatever parks and recreation areas are left and to embark on a massive greening program that includes urban forestry, creating rooftop gardens, green architecture, urban agriculture, use of light colored paints, and grassed waterways, among others.

We need to stress that green spaces can reverse the “heat island effect,” serve as urban “green lungs” and carbon “sinks,” provide venues for recreation, socialization, exercise, meditation and horticultural therapy, buffer noise, support wildlife, improve urban hydrology, and enhance the urban aesthetic landscape.

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