

The Urban Gazette

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Green Spaces and Governance



After falling into disrepair once again, Bagh Ibne Qasim has been rehabilitated | Photo by Tahir Jamal

Karachi had become a chaotic, ungovernable mess with a dilapidated infrastructure at the time. A city with a high demand of resources, it was in dire need of an overhaul. Slowly but surely, the Jamaat-i-Islami (JI)-backed nazim [administrator] of the city, Naimatullah Khan, and subsequently the Muttahida Qaumi Movement (MQM)-backed Mustafa Kamal would reverse the trend. Despite the ideological polarity, both nazims had one thing in common: a renewed focus on the environment.

The showpiece of this new priority was the Jahangir Kothari Parade, a colonial-era construction that boasted two structures, the Promenade Pavilion and the Lady Lloyd Pier. As with other constructions in the city, the Jahangir Kothari Parade had fallen in disrepair as bureaucrats running the city's administration till then had not bothered to invest any money into the upkeep of the park.

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What is the link between local
government and greenery in the
city?*

In June 2005, Musharraf would instruct Kamal's city government to begin extensive renovation work of the promenade pavilion and pier. And after some planning, construction work began on what would eventually become Pakistan's largest park, Bagh Ibne Qasim. It covered 130 acres of land around the pier, with lush gardens covering the length of the park. In a city that was being suffocated on many counts, Bagh Ibne Qasim became a point of relief. More than a decade has passed since. The bagh fell into disrepair once again after the last local government system was wrapped up and administration handed over to bureaucrats. It has been resuscitated once again by an elected local government.

This begs the question: is there a relationship between local governance and vibrant open green spaces?

Rub of the Green

The 'city' is often a jungle of concrete and the metropolis of Karachi is no exception to the rule. Considered among the cities with the highest population density ratios anywhere in the world, Karachi's need for open green spaces is immense. In recent times, the city has been struck by heat waves. There have been discussion around heat islands in the city and the natural flow of wind that has been disrupted with more construction.



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But what often gets ignored is the state of vegetation spaces for recreation and relief in the city – what has happened to them ever since 2010, when the all-powerful local government system was running the city? We set out to discover how governance systems help in building ecologically sustainable spaces in the city, which simultaneously provide relief as well as entertainment and even healthy interactions. And we began studying greenery in all open green spaces in Karachi that are three acres or more in size. We decided to look into satellites images from September 2006, 2010 and 2017 – Septembers tend to be greener than other months in Karachi as it is the post-monsoon season. And we looked into data from both civilian-run localities as well as those run by cantonment boards. Data from these points in time captured Karachi during and after both the Naimatullah Khan-led and the Mustafa Kamal-led local governments, the period when there was no elected local government, and the period after power had been handed over to the Wasim Akhtar-led local government.

What emerged is a trend – a functioning local government sees the city's open green spaces improve but bureaucratic rule sees green spaces shrink and shrivel.

What does the Imagery Say?

One lens to understand the discontents of the city is the environment.

A space marked as a 'park' on official papers may not resemble a park in reality. It could well be an abandoned lot or a plaza. This obviously has ramifications for the quality of life in the city. It is for this reason that researchers typically employ the Normalized Difference Vegetation Index (NDVI), which relies on sunlight to tell us about the density of green on a patch of land. Put simply, when sunlight strikes a plant, certain wavelengths are absorbed and others are reflected. Chlorophyll soaks up visible light but the cell structure of leaves strongly reflects near-infrared light. To determine the density of green, researchers typically observe both visible and near-infrared sunlight reflected by plants. This is captured on satellite imagery and processed accordingly. Greater difference between near-infrared and the red reflectance means that there is more vegetation in the area being studied.

Satellite imagery reveals that in times when the city's administration was being run by bureaucrats, open green spaces have withered. Meanwhile, tremendous improvement of greenery was observed in almost all open green spaces in cantonment areas, even in 2010, in part because cantonment boards did not want to lag behind the towns that were being run by the elected local government. But while the local government system collapsed in 2010, cantonment boards have managed to keep up the good work. Greenery was not only maintained but also improved from about 0.84 to 1.08 percent in 2016-2017. This positive trend was also possible because residential establishments administered by cantonment boards do not fall within the ambit of the civilian municipal administration and are not subject to

their policy or monetary constraints.

Governing the environment as a centrepiece of how to run the city is a concept that remains alien to those in the corridors of power. And therefore, Karachi has been suffering the wrath of heat waves with greater frequency over the past five years.

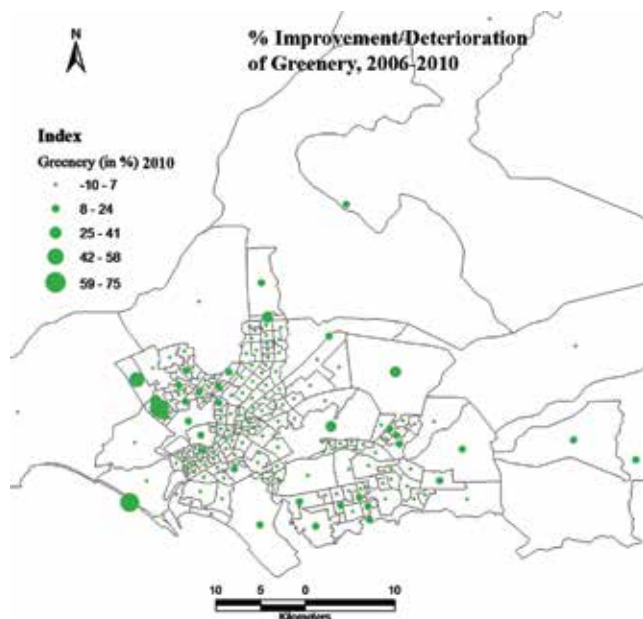
On average, the greatest improvement of greenery in open green spaces in 2010, among all towns and cantonments, was observed in Manora Cantonment – 71 percent. This was followed by Faisal Cantonment with 31 percent, Malir Cantonment with 29 percent, Baldia Town 24 percent, DHA Cantonment 23 percent, Karachi and Korangi Cantonments 14 percent each, Bin Qasim and Gadap towns 12 percent and 10 percent respectively. The remaining towns improved greenery in their open green spaces from one to seven percent on average, while the low- and middle-income Shah Faisal Town has shown no improvement of greenery in its open green spaces and their condition is deplorable because their maintenance has been seriously neglected.

By 2016 and 2017, not only had the condition of greenery in open green spaces in almost all towns become dismal, but, in comparison with 2006, open green spaces seem to have withered away. Meanwhile, cantonment areas showed improvements in greenery of open green spaces ranging from 0.84 to 1.08 percent in 2016 in comparison to that of 2010. The greatest improvement of greenery in open green spaces – 1.08 percent – was noted in DHA, followed by Faisal Cantonment (1.02 percent) while Malir and Karachi cantonments showed only 0.98 percent improvement each. Manora Cantonment, the smallest of all cantonments, has shown improvement in greenery to the tune of around 0.92 percent while Korangi Cantonment only 0.84 percent. Towns have shown notable deterioration of greenery in their open green spaces ranging from -1 percent to -23 percent. The highest deterioration in greenery was noted in Baldia Town, at -23 percent. This is because some of the well maintained open green spaces of Saeedabad (UC5), Islam Nagar (UC3) and Nai Abadi (UC4) of this town have lost highest quantum of greenery.

Gadap, Malir, Orangi, Site, Korangi, New Karachi, Landhi, Lyari, Jamshed, North Nazimabad, Gulberg, Saddar, Liaquatabad Gulshan-e-Iqbal and Keamari towns have lost the greenery of their open green spaces to the tune of -1.5 to -9.0 percent, while Shah Faisal Town showed least deterioration in greenery of its open green spaces, around -0.1 percent, because the condition of open green spaces in the UCs of this town were already miserable. Satellite images for the years 2006 and 2010 also showed

that three UCs of the low-income Baldia Town, Saeedabad (UC5), Islam Nagar (UC3) and Nai Abadi (UC4), showed incredible improvement of greenery in their open green spaces by 75 percent, 44 percent and 40 percent respectively. Similarly, Maymarabad of the low- and middle-income Gadap Town (UC7) has also shown remarkable improvement of 35 percent, while a noticeable improvement of greenery in open green spaces of other UCs of the megalopolis was also recorded between one to 30 percent. Unfortunately, however, many UCs of the megalopolis revealed a remarkable deterioration of greenery in their open green spaces. The low-income Morio Khan Goth and Pak Sadat Colony of Shah Faisal Town have lost their greenery to the tune of 10 percent and four percent, respectively; UC9 Buffer Zone II and UC10 Buffer Zone I of North Nazimabad and UC1 Pak Colony of SITE Town (minus five percent) each, Gabopat i.e. UC8 of Kiamari Town (minus three percent), Sharafi Goth (UC5) of Landhi Town and Bandhani Colony (UC6) of Liaquatabad Town (minus two percent each), because of lack of maintenance of open green spaces in these UCs (Fig. 4).

Similarly, a comparison of satellite images for the years 2010 and 2016 has revealed a terrible condition of open green spaces in civilian-run localities.



The UCs of Baldia Town, which had shown the highest improvement in the greenery of their open green spaces, are now in miserable state. A shocking deterioration of greenery i.e. -72 percent, -42 percent and -38 percent for the same UCs of Baldia Town, respectively, was also been noted. Ibrahim Hyderi (UC1) and Ghaghar (UC7) of Bin Qasim Town and Iqbal Baloch (UC9) of Orangi Town revealed -21 percent, -20 percent and -19 percent greenery respectively in their open green spaces, while the other UCs of towns have lost greenery in their open green spaces ranging between -16.8 percent to zero percent.

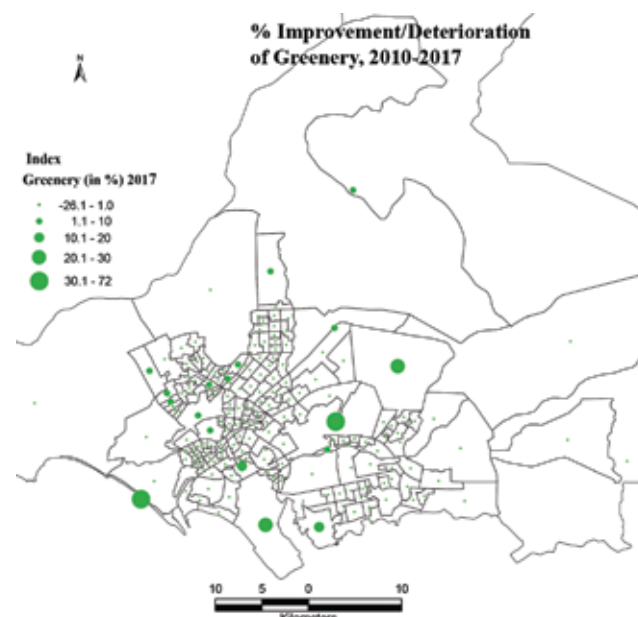
Interpreting Satellite Imagery

In theory, the more green spaces, the better can the

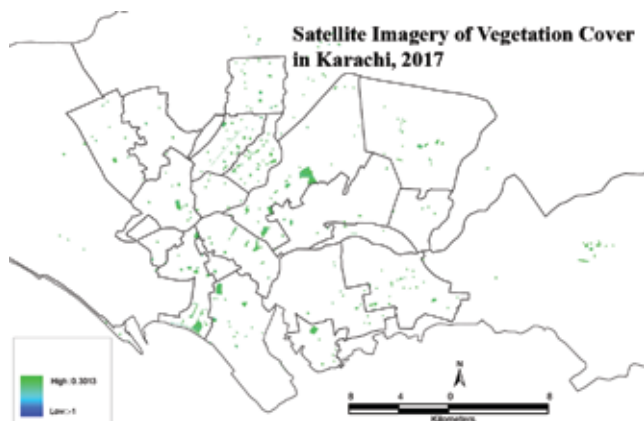
high temperature in the city's surface and air temperatures be managed. Through our data, we can deduce that there was tremendous improvement in greenery of open green spaces (three acres and above), by about 44 percent, in the year 2010 as compared to that in 2006. But in the year 2016, a deplorable state of greenery in open green spaces of all towns becomes distinctly noticeable. Only two percent improvement as compared to that in 2006 has been noted which is wholly due to the efforts of the administrators of the cantonments. It can thus be concluded that 42 percent of greenery from open green spaces of towns has been compromised due to a lack of care and maintenance.

A decade is a long time when it comes to creating a cover of trees, or in the case of Karachi, shrinking it. The two maps above compare how open green spaces seem to have withered away after the local government system was done away with in 2010. The map shows overall vegetation cover in present-day Karachi.

The reasons for improvement in greenery of open green spaces in 2010 was due to the presence of an elected local government and their interest in developing and maintaining the infrastructure of the megalopolis. Construction and renovation of open green spaces was one of its major priorities. More than 350 open green spaces were maintained and renovated for improvement of the urban environment, thereby facilitating in reduction of air pollution whereby citizens' quality of recreational facilities was markedly improved.



Unfortunately, after 2010, the condition of greenery of open green spaces in this city could not be maintained as the local body government tenure expired in 2010 and only 2 percent greenery of open green spaces of cantonments could be maintained in the period 2016-2017. After 2010, districts were ruled by bureaucratic administrators appointed by the provincial government. As satellite data suggests, maintaining or improving vegetation cover in the city was not high on their priority list.



Politics of the Environment

Open green spaces, by virtue of its nomenclature, should not only be 'open' but 'green' as well. But in Karachi, one is at a total loss on the use of this term for its parks and playgrounds. Recent times have seen open spaces being relegated to dumping yards for trash. In some localities, playgrounds have been taken over by encroachments of various kinds. And in others, open green spaces have been entirely abandoned or shut down because there is nobody to maintain them. It follows, therefore, that the improvement, or conversely, deterioration, in the condition of open green spaces tells us a story about governance and environmental policy. More care and attention given to open green spaces would entail that not only has the city kept environment in the well-being of its society and culture, but also that it has ensured that its citizens have a better quality of life.



A park in the upscale locality of DHA Phase VII

Contrary to popular perception, governing the environment is a lucrative undertaking. In Karachi, many local officials in the past have utilised their yearly budgets

on planting trees that grow to a certain height at tremendous pace. Once these plants started interfering with electricity and communication lines, they had to be chopped. And once they were chopped, more of the same were planted with the next yearly budget. This unending cycle is what makes governing the environment lucrative as there is money involved in all stages. And perhaps it is this aspect that keeps the bureaucrats away. This attitude, too, is short-sighted and reflects an insular policy. This unending cycle is what makes governing the environment lucrative as there is money involved in all stages. And perhaps it is this aspect that keeps the bureaucrats away. This attitude, too, is short-sighted and reflects an insular policy.

While the planting and chopping of trees on main arteries plays out in the open, what has happened to open green spaces has stayed away from the limelight. Governing the environment as a centrepiece of how to run the city is a concept that remains alien to those in the corridors of power. And therefore, Karachi has been suffering the wrath of heat waves with greater frequency over the past five years.

Bureaucrats in Karachi point to water and sanitation as the most pressing needs of the city, but this is also at odds with the real estate boom from 2013 onwards and the aggressive construction of multi-storeyed building in the city. In fact while licenses have been approved in the city to construct in areas with extremely high population densities, protection for green spaces has been hard to come by. After the 2016 local government assumed charge, open green spaces in some localities have seen an upturn in fortunes. But the great tragedy is that even the incumbent local government has been hampered by a funds crunch in redeveloping parks across the city.

There is also a class element at play. Cantonments are typically located in more privileged localities of the city. And their financial state remains healthy. Local governments tend to govern the city's low-income and middle-income localities, which not only have a high density of population but also have the greatest demands of resources such as water. Environment encompasses many different layers of populations and resources; the prevalent thinking being that there needs to be more focus on resources such as water than the environment per se.

But water is also used to ensure the upkeep of open green spaces. A well-thought out policy would ensure how to supply potable water to households but, also, how to recycle water to maintain open green spaces in the city. Karachi's experience from 2010 onwards reflects that not only do civilian areas need the same kind of emphasis on open green spaces that is being granted by cantonment authorities, they also need to ensure how best to utilise limited resources for many different tasks. Governing the environment is a careful and meticulous undertaking but its impacts go beyond just one area. No or little vegetation in one area of the city will ultimately impact the temperature of the air, and by extension, all citizens of the city.

The Urban Unit is thankful to the authors for their permission to represent this case study for wider dissemination.

Printed in Daily Dawn: April 22, 2018



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