GREEN BEFORE GRAY

Ibrahim Abdul-Matin @ibrahimSalih
Author - Green Deen: What Islam Teaches About Protecting the Planet
Co-founder - Green Squash Consulting

New York City spends billions a year on managing water.

Not just the water that you drink and the water you flush down the toilet and kitchen sink, but also water that falls from the sky.

Right now, the reality of water falling from the sky is crystal clear. Hurricane Ida dumped 3.28 inches of rain in one hour. The storm caused the deaths of at least 13 people in New York City, at least 11 of whom were found in flooded basement apartments. The trend lines suggest that we will be dealing with hotter, wetter, more volatile weather - like the onslaught of Ida - more regularly.

So, what are we going to do about it?

Take a moment and imagine that if you were to design a solution to this problem of managing increasing amounts of rain (and in increasing intensities) how would you go about it?

First you must know how we solve the problem now.

At the end of your block in many parts of the city are drains - called catch-basins. Water and debris that collects from a rain event arrives in these catch basins and gets sent, using the power of gravity in most cases, to one of our 14 wastewater resource recovery facilities dotted around the edges of our coastline. Our combined sewer system gets overwhelmed sometimes and sewage (from our homes) and storm water mix and get in the waterways around us - making swimming after a severe rainfall a public health concern.

A combined system was state of the art at one time. London and San Francisco both have similar systems. A separate system is better because they are separating water that falls from the sky and the sewage that comes from our homes - this leads to less pollutants and therefore cleaner water around us. Federal policy, through the Clean Water Act, gives municipalities guidance on how to do this in a traditional way. This guidance is critical because in many places the management of stormwater is one of the biggest capital items in the budget. Many of these control efforts involve large containment or retention tanks made of concrete, to hold excess flow until it's safe to let it travel through the combined system. These systems are referred to as grey infrastructure. It is usually effective but those can reach capacity and be overwhelmed - especially as these storms increase in intensity - as we saw with Hurricane Ida, sending millions

of gallons of rainwater into our neighborhoods. There are better ways to manage the increased rainfall we will see more often because of climate change - ones with multiple benefits - that is known as "green" infrastructure.

By now you've likely heard your local newly minted elected official make a call for "green infrastructure," which uses natural solutions to soak up rainfall. That's the right call. Why do we allow stormwater to push pollution into our waterways or overwhelm us where we sleep? In the past we built up and pressed landfill, garbage, steel, concrete and asphalt everywhere. Do we need more of that?

Today, 72% of the city is impervious. Green infrastructure is finding the right ways to incorporate porous surfaces. These, often green spaces, soak up the rain and keep it out of our sewer system. We can engineer spaces that allow water to absorb - to go back into the ground. We should prioritize building and maintaining controlled rain gardens and other designed spaces that clean the air and provide space for pollinators. We should be thinking about all our roadbeds as water retention underneath by choosing porous surfaces when we redesign major infrastructure such as the BQE and our 8,000 miles of city streets.

"CITY GOVERNMENT NEEDS TO MAKE A COMMITMENT TO GREEN INFRASTRUCTURE FIRST. IT SHOULD BE GREEN OVER GREY EVERY TIME"

City government needs to make a commitment to green infrastructure first. It should be Green over Grey every time. We are making a commitment to green over grey at NYCHA. The City's Housing Authority, home to more than 175,000 units, has made that commitment. They are asking how we can build Green Infrastructure on NYCHA projects and how we can train and employ NYCHA residents to install and maintain green infrastructure. Every city agency should do the same. The City's Department of Environmental Protection (DEP) which manages all things related to water and the City's Parks Department which maintains natural areas all over the city know the correct levels of staffing needed to build out and maintain a robust green infrastructure network but the City simply has not invested in hiring and staffing at the right levels or paying these folks competitively to keep them.

We are overdue to make these decisions. Remember, we are talking about the problem of what to do with water falling from the sky - it is not something to think small about. Bottom line, every agency which touches our physical environment needs the staffing levels they need to plan comprehensively to address the level of water which Hurricane Ida has shown will be coming more regularly.