‘Extreme weather to be more common, Delhi-NCR must invest in waterbodies’

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Extreme weather conditions that manifest in longer heat waves and phases of high-intensity rainfall, which are uncharacteristic of our seasons but have become more familiar in recent years, will become an increasingly common occurrence in Delhi-NCR, say two Indian scientists who contributed to the latest and most exhaustive evidence-based Intergovernmental Panel on Climate Change (IPCC) report that warns of a 1.5 degrees Celsius rise in global temperatures in 20 years.

The IPCC had on August 9 come out with its sixth assessment report, which was based on the review of over 14,000 published papers by 234 scientists from across the world.

“Delhi-NCR will witness severity of heat waves and extreme rainfall,” Prof Govindasamy Bala, professor at the Indian Institute of Science (IISC) in Bengaluru, told TOI. “Urban flooding (which the region is already witnessing, particularly in Gurgaon) will also be a common feature because of high concentration of rainfall in a short duration. The existing system cannot precipitate the excess rainfall in such a short time period. These are all impacts of climate change,” he added.

Speaking to TOI separately, Dr N H Ravindranath agreed with Prof Bala’s analysis. “Rainfall and temperature are determined by global factors. Delhi-NCR will witness both direct and indirect impacts of climate change. The direct impact will be severe heat waves and high-intensity rainfall. The indirect impact will be increased cases of dengue, malaria and migration of people from different parts of India to Delhi and its neighbouring districts for work,” said Dr Ravindranath, professor (retd) of IISc’s Centre for Sustainable Technologies.

Prof Bala underlined the need for more waterbodies to help mitigate air pollution, the biggest environmental challenge for the capital and its densely populated satellite cities like Gurgaon, Faridabad, Noida and Ghaziabad, and the effects of extreme weather in the

region. “The answers to these problems are simple. The region needs more waterbodies that can act as a heat sink. The runoff water from the excess rain can also be pushed towards these reservoirs to avert flooding,” he said.

The only way, he added, to tackle air pollution in the region is to reduce diesel emissions. “Pollutants don’t stay in the atmosphere for long. They get dispersed and washed out over a period of two weeks. Air pollution is a local problem, and it must be dealt with locally,” he said.

The IPCC report, which for the first time was unequivocal about human activity being the cause of the climate crisis, has called for a drastic cut in greenhouse emissions. “The speed of climatic change has increased. Though the average global temperature shows a rise of only 1.1 degrees Celsius, it can be tricky. As the average rise in temperature is calculated over a period of 10 years globally, the outliers, such as extremes in temperatures, are hidden. It is possible that in some areas, the temperature may have increased by 10 degrees Celsius,” Prof Bala said.

Delhi-NCR is already witnessing erratic weather, very harsh summers and winters and moody monsoons end in rain deficit but precipitate episodes of waterlogging due rainfall happening in bursts. So, can we go back from here? “No, we can’t. Some changes are irreversible in our lifetime. Take, for instance, the melting of glaciers. It takes 100 years to respond, and we cannot also predict when a huge chunk of the ice sheet will fall into the sea and raise the water level. Climate change is a problem that we are creating for our future generations,” the IISc professor warned. “Unless carbon emissions are drastically reduced, limiting warming to 1.5 degree Celsius will be beyond reach. India has so far not indicated a roadmap for peak and net zero in carbon emissions,” he added.

In Delhi-NCR, urban planning for the future, and consequently the environment strategy, will have to factor in tides of migration into the region. Dr Ravindranath said, “People from other parts of India will migrate to Delhi-NCR more. As flooding and drought continues to play havoc in different parts of the country, people will migrate to Delhi. This will also have a drastic impact on food production. These are all indirect impacts of climate change that the region will witness.”

On measures governments should take to limit climate change effects, he added, “Haryana should plant more trees, which can help the region create barriers against dust from the desert. Increasing green cover will also decrease soil erosion. To limit the urban heat island phenomenon, the governments can paint the rooftops of every building white. It will reduce heat. Delhi-NCR should ensure stormwater drains are not choked. This will help limit urban flooding.”