BOMBARDMENT OF MYSTERIOUS ENVIRONMENTAL FACTORS IN OVERPOPULATED CITIES OF PAKISTAN: UNVEILING HIDDEN INFLUENCES AND ASSOCIATED DISEASES

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Megacities in Pakistan, including Karachi, Hyderabad, Peshawar, Lahore, the twin cities Islamabad and Rawalpindi, Faisalabad, Gujranwala, Multan, and Quetta, are grappling with substantial pollution challenges, posing diverse threats to human health. Megacities exhibit considerable cultural, socioeconomic, and racial diversity alongside environmental variations. A notable trend among many megacity dwellers involves adopting more Western diets such as (fast foods, burgers, and pizza), as well as embracing sedentary lifestyles. These factors contribute to higher body-mass indices (BMIs) and a rise in obesity and diabetes cases.[1] Pollution is characterized as the detrimental modification of the environment caused by human actions. It can be categorized into three primary types: air, water, and land pollution.[2] Research findings may be impacted by wet deposition, a phenomenon in which precipitation causes coarse particulate matter (PM) to settle on the ground during rain.[3] This pollution may include ozone, fine particulate matter (PM) with a diameter of less than 2.5 μm (PM2.5), nitrogen dioxide, and sulfur dioxide. Approximately 92% of the global population is subjected to concentrations of PM2.5 that exceed recommended levels, leading to 3 million premature deaths annually. The majority of PM can have bad effects on the respiratory system, like asthma attacks. Ozone might prompt more continuous events of asthma assaults, trouble breathing, irritation of lung illnesses, and enduring harm to the lungs over delayed times of openness to it. High concentrations of ozone have been associated with increased rates of hospitalizations, trauma centre visits, and even fatalities.[1]

Another aspect is that increased heat indexes are signs of a climate disaster in our country. The heat island effect, caused by elevated temperatures, has a detrimental impact on human health. It contributes to an increased vulnerability to heat-related illnesses such as heat stroke, dehydration, as well as respiratory and cardiovascular diseases.[1] Recently, Pakistani specialists have shut schools and markets in Lahore and conveyed counterfeit downpours in the midst of developing alerts over deteriorating levels of air contamination. Lahore ranked top dirtied city as per Swiss innovation organization IQAir.[4] Lahore's 11 million occupants might be losing over seven years in a normal future because of unfortunate air quality, as per a College of Chicago gauge.[5] As of 2022, Cloud seeding technology has been utilized in 56 countries, The US, China, UAE and India have active cloud seeding programs.[6] A fruitful trial was finished in Lahore as of late December 2023, thus downpour was detailed across enormous pieces of Lahore, and air contamination levels briefly dropped. Although this technique's effectiveness remains uncertain and research has shown limited impact on a larger scale; using cloud seeding can increase rainfall and snowfall with benefits for specific regions or prevent future days where there may be inadequate rain/snowfall. The most notable engineered materials used for cloud development integrate silver iodide, potassium iodide, and dry (serious areas of strength for ice dioxide). Liquid propane, which wanders into gas, has also been used. This can convey ice-valuable stones at higher temperatures than silver iodide. This can deliver ice precious stones at higher temperatures than silver iodide. Hygroscopic materials like table salt are growing in popularity following promising research.[7]

Despite the advantages and effectiveness of these techniques, there are many disadvantages as well, such as serious alterations of natural conditions, and urban flooding, due to chemical-based methods being expensive, causing water & and soil pollution, reducing air quality, and potentially resulting in harmful acid rain. Additionally, there may be a lack of precipitation in some areas and local floods that are difficult to control due to the true effects of this method, among other things. A lot of information is expected to involve this idea legitimately. Cloud cultivation may cause more harm than good. The effectiveness of cloud cultivation is

somewhat problematic. Cloud seeding's long-term effects are still somewhat hazy. Cloud seeding has been the focal point of numerous hypotheses, with beliefs that state-run administrations control the weather conditions to emphasized on the nursing imperatives for identification and recognition of concerns of child and families in any intervention program in achieving desirable outcomes of child with ASD.

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