International Journal of Pharmaceutical Science Invention
ISSN (Online): 2319-6718, ISSN (Print): 2319- 670X
www.ijpsi.org Volume 10 Issue 5 ǁ May. 2021 ǁ PP. 59-62

Environmental Changes in the Area Have Global Effect

Dr. Sanjay Kumar Singh
Assistant Professor, Department of Zoology , Govt. P.G. College, Charra Aligarh

Abstract
Over the past 20 years, environmental challenges have become global concerns that have mobilised governments, media outlets, and civil society organisations worldwide. Climate change is one of the primary concerns of the world's society, and it has been a major topic of discussion among environmental changes. "Global Environmental Issues" refers to the impact of human activities on the climate, specifically the burning of fossil fuels (coal, oil, and gas) and extensive deforestation, which release significant amounts of "greenhouse gases" into the atmosphere, the most significant of which is carbon dioxide. These gases absorb infrared energy that the Earth emits. surface and cover it like blankets, keeping it warmer than it would otherwise be. Climate change is linked to this warming. The fundamental science of the "greenhouse effect," which causes warming, is clearly implied. Numerical models of the climate that incorporate the fundamental dynamical and physical equations characterising the entire climate system are necessary for a more thorough understanding.
Keywords: *Environmental issues; Global Effect*

I. Introduction

An Introduction to Global Environmental Issues offers a thorough and engaging overview of the major environmental problems now endangering the environment worldwide. This article is a must-read for anybody researching or interested in global issues because it provides an authoritative overview of the main subjects, a source of up-to-date environmental data, and a creative debate starter.

environmental problems. Important environmental issues around the world are highlighted. An crucial grasp of the scientific ideas, procedures, and historical context of environmental challenges is provided by explanations of the evolution of the earth's natural systems (hydrosphere, biosphere, geosphere, and ecosphere). The impact of humans on the environment, how it is managed, and the need to preserve biodiversity are all highlighted.

The extent and rate of local and global environmental changes, whether greenhouse-gas induced warming, deforestation, desertification, or loss in biodiversity, are driven largely by the rapid growth of the Earth‘s human population. Given the large and ever-increasing fraction of the world‘s population living in cities, and the disproportionate share of resources used by these urban residents, especially in the global North, cities and their inhabitants are key drivers of the local and global environment change. The focus in not on the effects of cities on global-scale climate, rather the effects globally of cities at regional and local scales.

While predicting climate change and its impacts at a global scale is still highly uncertain, local effects of urbanization on the climate have long been. Surface and atmospheric changes associated with the construction and functioning of cities are profound. New surface materials, associated with buildings, roads, and other infrastructure, along with changes to the morphology of the surface, alter energy and water exchanges and airflow. Combined with direct anthropogenic emissions of heat, carbon dioxide and pollutants, these results in distinct urban climates.

One of the best-known urban effects of such development is urban warming; globally cities are almost always warmer than the surrounding rural area. The magnitude of urban warming is highly variable over both time and space. On average, urban temperatures may be 1-3 degrees Celsius warmer, but under appropriate meteorological conditions air temperatures can be more than 10 degrees Celsius warmer than surrounding rural environments.

Spatial and Temporal Dynamics

Within a city, urban-rural temperature differences show significant spatial and temporal variability. Temperatures from one side of a street to the other, from a park to an industrial neighbourhood, or one suburb to another maybe significantly different, and the nature of these differences changes through time. Generally, the greatest intra-urban temperature differences are associated with clear skies and low wind speeds. The clear skies allow maximum solar radiation receipt during the day, thus enhanced heating of vertical surfaces, and roofs. Under cloudy and windy conditions there is likely to be less solar gain and greater mixing, so that differences in air temperatures are reduced. Typically the greatest urban-rural temperature difference is observed 2-3h after

sunset. Given that the rate of radiative cooling is influenced by the sky view factor, narrower streets result in reduced longwave radiative loss and remain warmer than more open areas. Cities have higher building densities in the centre, so warmer temperatures tend to be found in these locations. Changes in wind direction, especially under low wind speed conditions, can displace these maxima downwind. The locations of parks (vegetated) or other wide open areas can be influential in creating complex patterns. When these spatial patterns are studied over time, the location of the maximum temperature varies.

Urban areas are dynamic, thus urban temperature patterns change over longer periods. Some cities develop over time through processes of very deliberate planning, others in amore *ad hoc* way. The form of urban development also varies. For example, in China, where there is very rapid growth in urban populations, new construction tends to be of tall buildings. In India, by contrast, this is not the case. This has implications not only for the nature of the cities and the environmental conditions within them, but also the spatial extent of new development (regional land use change) and commuting distances of city residents. Also important are the ways in which old buildings are refurbished and brown fields developed. The former may involve reroofing, refitting interior heating and cooling systems, painting the exterior or covering a building with new materials. All these changes have impacts on the micro and local thermal environment.

Impacts

Urban warming has important implications for human comfort, health and well-being. Many examples exist of the vulnerability of urban populations, most often the elderly and the poor, associated with heat waves; for example in India in 1998 and France and Spain in 2003. Future climate scenarios, which predict an increase in summertime maximum temperatures and also in the frequency and magnitude of extreme conditions, suggest greater risks in the future. Warmer conditions in cities will also increase demand for air conditioning. More air conditioners generate more heat and have significant effects on the local-scale external climate, with implications for human comfort and the demand for cooling. At a larger scale, greater use of air conditioning results in more greenhouse gases through increased electricity generation. Significant growth in the use of air conditioning in North America, Europe and Asia has been documented and recent simulations indicate the resultant increase in energy demand will more than offset reductions in energy demand for heating under cold conditions.

The planet is warming, from North Pole to South Pole. Since 1906, the global average surface temperature has increased by more than 1.6 degrees Fahrenheit (0.9 degrees Celsius)even more in sensitive polar regions. And the impacts of rising temperatures aren‘t waiting for some far-flung future–the effects of global warming are appearing right now. The heat is melting glaciers and sea ice, shifting precipitation patterns, and setting animals on the move.

Many people think of global warming and climate change as synonyms, but scientists prefer to use ―climate change‖ when describing the complex shifts now affecting our planet‘s weather and climate systems. Climate change encompasses not only rising average temperatures but also extreme weather events, shifting wildlife populations and habitats, rising seas, and a range of other impacts. All of these changes are emerging as humans continue to add heat-trapping greenhouse gases to the atmosphere.

Global environmental major issues

Rapid population expansion has a negative impact on the environment and natural resources, making it one of the main drivers of environmental degradation in a nation. Sustainable development is challenged by both population uprisings and environmental degradation. The The process of socioeconomic development can be accelerated or slowed down by the presence or lack of advantageous natural resources. Changes in population size, composition, and distribution are caused by the three fundamental demographic factors of births (natality), deaths (mortality), and human migration and immigration (population moving into a country produces higher population). These changes raise a number of significant cause-and-effect questions. India is experiencing numerous severe environmental disasters as a result of economic growth and population expansion.

Scientists already have documented these impacts of climate change:

- Ice is melting worldwide, especially at the Earth‘s poles. This includes mountain glaciers, ice sheets covering West Antarctica and Greenland, and Arctic sea ice. In Montana's Glacier National Park the number of glaciers has declined to fewer than 30 from more than 150 in 1910.
- Much of this melting ice contributes to sea-level rise. Global sea levels are rising 0.13 inches (3.2 millimetres) a year, and the rise is occurring at a faster rate in recent years.

- Rising temperatures are affecting wildlife and their habitats. Vanishing ice has challenged species such as the Adélie penguin in Antarctica, where some populations on the western peninsula have collapsed by 90 percent or more.
- As temperatures change, many species are on the move. Some butterflies, foxes, and alpine plants have migrated farther north or to higher, cooler areas.
- Precipitation (rain and snowfall) has increased across the globe, on average. Yet some regions are experiencing more severe drought, increasing the risk of wildfires, lost crops, and drinking water shortages.
- Some species—including mosquitoes, ticks, jellyfish, and crop pests—are thriving. Booming populations of bark beetles that feed on spruce and pine trees, for example, have devastated millions of forested acres in the U.S.

Other effects could take place later this century, if warming continues. These include:

- Sea levels are expected to rise between 10 and 32 inches (26 and 82 centimetres) or higher by the end of the century.
- Hurricanes and other storms are likely to become stronger. Floods and droughts will become more common. Large parts of the U.S., for example, face a higher risk of decades-long "mega droughts" by 2100.
- Less freshwater will be available, since glaciers store about three-quarters of the world's freshwater.
- Some diseases will spread, such as mosquito-borne malaria (and the 2016 resurgence of the Zika virus).
- Ecosystems will continue to change: Some species will move farther north or become more successful; others, such as polar bears, won‘t be able to adapt and could become extinct.

Mitigation

Understanding the causes of the urban heat island effect allows insight into strategies for mitigation. This has broader implications in terms of the management of energy resources. Peak energy demand for many regions of the world is now in the summer rather than winter. On occasions, utility companies are now unable to meet demand under these conditions and blackouts or rolling-blackouts result. For example, during some of the warmer periods of the summer of 2006, energy supply in London and Los Angeles was not able to meet demand and power cuts resulted. Mitigating enhanced urban temperatures, and thus reducing energy demand, has significant implications.

Many strategies benefit multiple aspects of urban environmental change. For example, the addition of water detention ponds and wetlands reduces peak urban runoff, which has the advantages of reducing the need to engineer larger systems to deal with flash floods and/or manage the release of untreated water downstream. With careful design of a wetland area, the quality of the stormwater can also be enhanced as well as providing the open areas of parks (higher sky view factors) and enhanced evaporation. Additional social, cultural, and psychological benefits from _natural‘ space can accrue too. Also, new residential developments (e.g. Lynbrooks in Melbourne, Australia) employ water-sensitive urban design that involves the use of grey water to irrigate residential vegetation. This reduces the demand for water to be diverted into a city for irrigation purposes.

II. Conclusion

Clearly the direct contributions of urban warming to global climates are small. Urban areas cover only a small fraction on the Earth's surface and their moisture, thermal and kinematic effects extend downwind only a few kilometres. However, the greenhouse gas emissions from the construction and operation of cities are large and increasing; the gases from urban areas are the dominant anthropogenic sources. Moreover, the warmer conditions in many cities result in greater energy and resource consumption by the inhabitants to offset the effect and also make urban populations more vulnerable to heat waves and other extreme conditions. Thus it is critical that cities and the drivers of urbanization are central to global environmental research. Urban areas and urban populations will continue to grow in size and number. Existing urban areas will experience redevelopment and refurbishment. The decisions made about how this will occur will impact upon the people living within the buildings, neighbourhoods and cities. In combination, they will have global implications and consequences. As a result, a more comprehensive perspective is needed, both in terms of science and policy. Since these events don't happen on their own, analysing them and attempting to come up with solutions as if they did seems like an exercise meant to fall short of the ideal solution. While it might occasionally be useful to separate an issue into components, the analyst must eventually reassemble the parts and search for the sum of the effects in order to

examine the contributions made by the individual pieces. Regarding global climate change, this has not yet been done in the field of public health, and there is less indication that it is being done in other crucial areas like agriculture and natural resources. Finally, worldwide cooperation is the only way to address global warming.

Reference

[1]. Bisgrove R, Hadley P (2002) Gardening in the global greenhouse: the impacts of climate change on gardens in the UK. UKCIP, Oxford, UK
[2]. Holman I, Loveland PJ, Nicholls RJ, Shackley S, Berry PM, et al. (2001) REGIS - Regional climate change impact and response studies in East Anglia and in North West England (RegIS). DEFRA, UK Climate Impacts Programme, UK.
[3]. www.nationalgeographic.com
[4]. www.rgs-ibg.onlinelibrary.wiley.com
[5]. National Aeronautics and Space Administration, Goddard Institute for Space Studies (2005) Air Pollution as Climate Forcing. Goddard Space Flight Center