

ENVIRONMENTAL HAZARDS FACING PAKISTAN

In 1992, Pakistan's National Conservation Strategy Report attempted to redress the previous inattention to the nation's mounting environmental problem. Drawing on the expertise of more than 3,000 people from a wide array of political affiliations, the government produced a document outlining the current state of environmental health, its sustainable goals, and viable programme options for the future.

Of special concern to environmentalists is the diminishing forest cover in watershed regions of the northern highlands, which has only recently come under close scrutiny. Forest areas have been thoughtlessly denuded. Deforestation, which occurred at an annual rate of 0.4% in 1989-90, has contributed directly to the severity of the flooding problem faced by the nation in the early 1990s.

As industry has expanded, factories have emitted more and more toxic effluents into the air and water. The number of textile and food processing mills in rural Punjab has grown greatly since the mid-1970s, resulting in pollution of its rivers and irrigation canals. Groundwater quality throughout the country has also suffered from rapidly-increasing use of pesticides and fertilizers aimed at promoting more intensive cropping and facilitating self-sufficiency in food production.

The National Conservation Strategy Report has documented how solid and liquid excreta are the major source of water pollution in the country and the cause of widespread waterborne diseases. Because only just over half of urban residents have access to sanitation, the remaining urban excreta are deposited on roadsides, into waterways, or incorporated into solid waste. Additionally, only three major sewage treatment plants exist in the country; two of them operate intermittently. Much of the untreated sewage goes into irrigation systems, where the wastewater is reused, and into streams and rivers, which become sewage carriers at low-flow periods. Consequently, the vegetables grown from such wastewater have serious bacteriological contamination. Gastroenteritis, widely considered in medical circles to be the leading cause of death in Pakistan, is transmitted through waterborne pollutants.

Low-lying land is generally used for solid waste disposal, without the benefit of sanitary landfill methods. The National Conservation Strategy has raised concerns about industrial toxic wastes also being dumped in municipal disposal areas without any record of their location, quantity or toxic composition. Another important issue is the contamination of shallow groundwater near urban industries that discharge wastes directly into the ground.

Water in Karachi is so contaminated that almost all residents boil it before consuming it. Because sewerage and water lines have been laid side by side in most parts of the city, leakage is the main cause of contamination. High levels of lead also have been found in water in Islamabad and Rawalpindi.

Air pollution has also become a major problem in most cities. There are no controls on vehicular emissions, which account for 90 per cent of pollutants. The National Conservation Strategy Report claims that the average Pakistani vehicle emits twenty-five times as much carbon monoxide, twenty times as many hydrocarbons, and more than three and one-half times as much nitrous oxide in grams per kilometre as the average vehicle in the United States.

Another major source of pollution, not mentioned in the National Conservation Strategy Report, is noise. The hyper-urbanisation experienced by Pakistan since the 1960s has resulted in loose controls for heavy equipment operation in densely populated areas, as well as in crowded streets filled with buses, trucks, automobiles, and motorcycles, which often honk at each other and at the horse-drawn tongas (used for transporting people) and the horse-drawn rehras (used for transporting goods).

SIGNIFICANCE OF CLIMATE CHANGE IN PAKISTAN

By Sohail Ahmed

We often read statements like 'climate change is a reality'. What needs to be clarified is the difference between climate change and global warming, both terms are sometimes used interchangeably. Being a sub-set of climate change, global warming is a problem attributed to an increase in greenhouse gases due to industrial activity, especially in the past two centuries. The climate change hype, however, is not without controversy. Here, it is endeavoured to form an honest opinion about the significance of climate change, specifically looking at Pakistan since it has been listed as one of the vulnerable countries. This is especially significant as the impact of climate change on Pakistan is very alarming, which can lead to multi-faceted problems.

It is necessary to understand that in addition to current data, pre-historic global patterns of climate change have been researched and recorded. And it is the departure from this natural pattern that the scientists are worried about. According to the Intergovernmental Panel on Climate Change's (IPCC) fourth assessment report, AR4 2007, an increase of 0.6 degrees Celsius during last century and a likely increase of 2 to 4 degrees Celsius in the twenty-first century, is expected despite necessary measures being adopted to counter its effects all over the world.

Although 186 countries signed the Kyoto Protocol in Bonn in 2001, countries such as the US and Australia disagreed. The bone of contention is regarding the reduction of anthropogenic, i.e., man-made, greenhouse gas emissions (CO_2 , CH_4 , N_2O , HFCs, PFCs, and SF_6) by at least 5 per cent between 2008 and 2012. This is so because reducing these gas emissions directly impacts their economy and development goals. The urgency of the situation has been established by the fact that higher temperatures are being recorded each year. We have observed unprecedented floods in Pakistan in July/August 2010 besides other unusual events and, in the southern hemisphere, Australia and Brazil were in the grip of raging flood waters. Sense of concern shown during subsequent Copenhagen Accord and lately, the Cancun Agreement, manifests the lack of interest and the lop-sided approach by various governments.

There are people who hold the opinion that man-made global warming is a physical impossibility and attribute it as an unnecessary fear. They believe that there are political and financial motives. Names like Al Gore are often heard in this connection for gaining political mileage. This group strongly disagrees that man has to do with the unnatural rise in temperature and that polar ice and glaciers are melting in accordance with nature's plan. While the Himalayan glaciers may not melt completely in the next thirty years, the occurrence does sound alarm bells. It is believed that in countries such as Pakistan, Maldives, Nepal and Bhutan, the situation is ostensibly far more challenging.

The important question for Pakistan is: How to interpret the phenomenon of climate change? We need to understand what man-made change (largely caused by the developed world) means to us. The Subcontinent is densely populated with just a 5 per cent of the area covered with trees and jungles. It comprises a vast area that has very high average temperatures. Housing designs are such that earth surface heat radiation index stays high. Also, it is surrounded by a large body of water i.e., the Arabian Sea, the Bay of Bengal and the Indian Ocean. Even a small increase in average temperature means large amounts of heat content available which can cause abnormal weather conditions leading to flash floods. Thus an anomalous rise in temperature would raise the severity level in the area every few years, with an increased frequency of occurrence.

In-depth knowledge in this regard is needed for the prosperity and health of the country. We need to realise that extreme weather conditions will result in droughts, severe winters, localised imbalance of oxygen-carbon dioxide percentages, underground water shortages that will directly affect hydel power, food, agriculture, health and a host of other sectors.

Despite a raised awareness level in Pakistan, a cohesive approach is amiss. Besides policy failure in the energy sector, deforestation is taking place at a rapid speed. There have been numerous reports of tree-cutting at a rapid pace, in and around the large cities of the country.

The good news is that people have started talking about climate change and are trying to delve deeper into the underlying factors to look for solutions. Recently, a meeting was held under the joint collaboration of the Environment Protection Department Punjab with the Ministry of Environment and the UN One Joint Programme on National Climate Change Policy Draft. The main focus was on the adaptation in accordance with the climate change. A joint strategy by sharing knowledge and resources, not only at the local but also at regional level for instance SAARC, would be extremely helpful in dealing with abnormal departure from climatic variations. It is essential to revisit the minute details of water treaties the country has made with India in light of climate change.

Pakistan has to continuously focus on all aspects of climatic variations in order to harmonise with correlated adaptability. Destruction of crops and livestock in a number of African countries is a glaring example of lack of understanding of such natural hazards in the absence of a cohesive plan. We need to conduct research through a 3-D mapping of underground water levels in the country and its flow from various directions, so that underground water reservoirs and their status is known for optimum usage. The National Disaster Management Authority (NDMA), in association with the concerned departments, should be made responsible to spearhead all important scientific and managerial activities to keep the country at par with the international standards.