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Environmental Challenges in South Asia: Need for Collective Initiatives

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ABSTRACT

India, Pakistan, and Bangladesh share some common environmental issues due to their geographical proximity and similar environmental challenges. Some of the common environmental issues in these countries include air and water pollution, deforestation, floods and rise in the heatwaves. These South Asian states share common water bodies and airsheds, there is a need of a collective environmental strategy at the regional level which can help coordinate efforts to address transboundary pollution and promote sustainable resource management. This paper focuses on the environmental problems faced by the states of India, Pakistan and Bangladesh and it will analyse the laws adopted by these states to tackle the environmental issues. At the end, the paper will discusses the possibility of the collective environmental initiatives at the regional level.

Key words: *Environment, South Asia, pollution, Degradation, Laws, Regional initiatives.*

Introduction

South Asia is blessed with the oldest civilizations and a rich and diverse natural resource base, historically supporting economic development and sustaining rural livelihoods. At present, the South Asian region comprises eight countries Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka, which is home to a population of around 1.5 billion (almost 1/4th of the global population). Though facing shared historical and socio-economic problems, there are more conflicts among the South Asian states rather than cooperation. After the partition of British India, the sub-continent witnessed the rivalry between the newly independent states of India and Pakistan (Paul, 2006). The tussle over Kashmir, boundaries, water resources and the Siachin glacier made this conflict enduring and asymmetric (Bajpaye, 2003). The India - Bangladesh relationship had a positive beginning, the former being the first to recognize the latter. But over the years, following the realistic politics, this relationship deteriorated as the two states had disputes over borders, water and 'illegal' migration (Begum, 2015). As far as the relationship between India and Pakistan or India and Bangladesh is concerned, there is no mutual trust, no compelling sense of cooperation and hence no dialogue. The possibility of future collaboration and trust among these states will emerge from addressing the common threat posed by environmental problems.

All three states have experienced environmental degradation for the last few decades due to expanding populations, poverty and lack of adequate environmental management. Environmental challenges in these states range from air pollution, water resources, land degradation, and deforestation to biodiversity loss. These problems often pose a re-

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gion-wide threat rather than a local or national threat. Though these states adopt strategies and laws to tackle the issues vis-à-vis the environment, there is a need for collective initiative at the regional level. There is also a need to learn from the other parts of the world where environmental problems were dealt with successfully in the past. This paper focuses on the ecological problems arising in South Asia while taking empirical examples from India, Pakistan and Bangladesh. The paper will also analyse the strategies and laws adopted by the Governments of these three states for tackling the environmental problems. Finally, the paper discusses the possibility of collective ecological initiatives at the regional level in South Asia.

Common Environmental Issues

The rapid economic growth experienced by India, Pakistan and Bangladesh over the past decade has come with some unwelcome consequences. These states face many environmental problems due to large and diverse populations, rapid industrialization, urbanization, and various natural factors. Some of the most common pressing environmental issues faced by these three states are:

Air and Water Pollution

Air pollution is a severe problem in major cities of India, Pakistan and Bangladesh with high levels of particulate matter, nitrogen dioxide (NO2), sulphur dioxide (SO2), and other pollutants. Major sources include vehicular emissions, industrial processes, and construction activities. The energy production of all three states heavily relies on fossil fuels, contributing to greenhouse gas emissions and air pollution. Road dust due to vehicles also contributes up to 33% of air pollution, which causes health issues. For instance, in a city like Bangalore, around 50% of children have asthma in India. Excessive pollution also appeared to harm heritage sites such as the Taj Mahal. Pakistan also experiences high levels of air pollution in cities, including Lahore, Karachi, and Islamabad, caused by industrial emissions (Sahibzada and Qutub, 1993).

Water pollution is a significant environmental issue in these states, with several causes and consequences. The majority of the population in these states heavily agriculture, and it is the use of fertilizers, pesticides, and herbicides that leads to the contamination of water bodies when these chemicals wash into rivers. Industries such as textiles, tanneries, chemical manufacturing, and mining are major contributors to water pollution in India. Similarly, many rivers, lakes, and groundwater sources in Pakistan are contaminated with pollutants from sewage, industrial discharges, and agricultural runoff. There are also shreds of evidence that suggest that disease and deaths in Bangladesh are caused by arsenic and other toxic elements in the groundwater (Frisbie, Seth *et al.*, 2002). Water pollution has also posed a threat to aquatic ecosystems in these states. Monitoring and regulating water quality in these states are often inadequate, making it challenging to identify pollution sources.

Deforestation and Loss of biodiversity

Deforestation in India is a significant environmental issue with far-reaching consequences. It refers to clearing or removing forests or trees for agricultural expansion, infrastructure development, urbanization, and industrial activities. One of the primary drivers of deforestation in India is the expansion of agricultural land to meet the growing food demands of the population. The construction of roads and other human settlements inside forests and hilly terrains has resulted in slope failures, eventually leading to landslides, especially during the monsoon season. In August 2018, regions along the Western Ghats experienced severe landslides.

Similarly, Pakistan has a high deforestation rate due to illegal logging, urban expansion, and unsustainable agricultural practices. Deforestation has led to soil erosion and loss of biodiversity, contributing to Pakistan's climate change. Soil erosion, salinity, and degradation of agricultural land are major environmental issues in Pakistan (Upadhyay and Ahmed, 2014). In Bangladesh, droughts, leading to desertification and soil erosion, and floods erode valuable topsoil and cause land degradation. For instance, the Sundarbans mangrove forest, one of the largest in the world, is threatened by deforestation, pollution, and climate change (Golam and Chowdhury, 2010). All three states have experienced rapid urban growth and infrastructure development, which destroys natural habitats and ecosystems. Moreover, deforestation causes habitat destruction and threatens many wild species, including the Bengal tiger, Asian elephant, and Indian rhinoceros.

Floods and Heatwaves

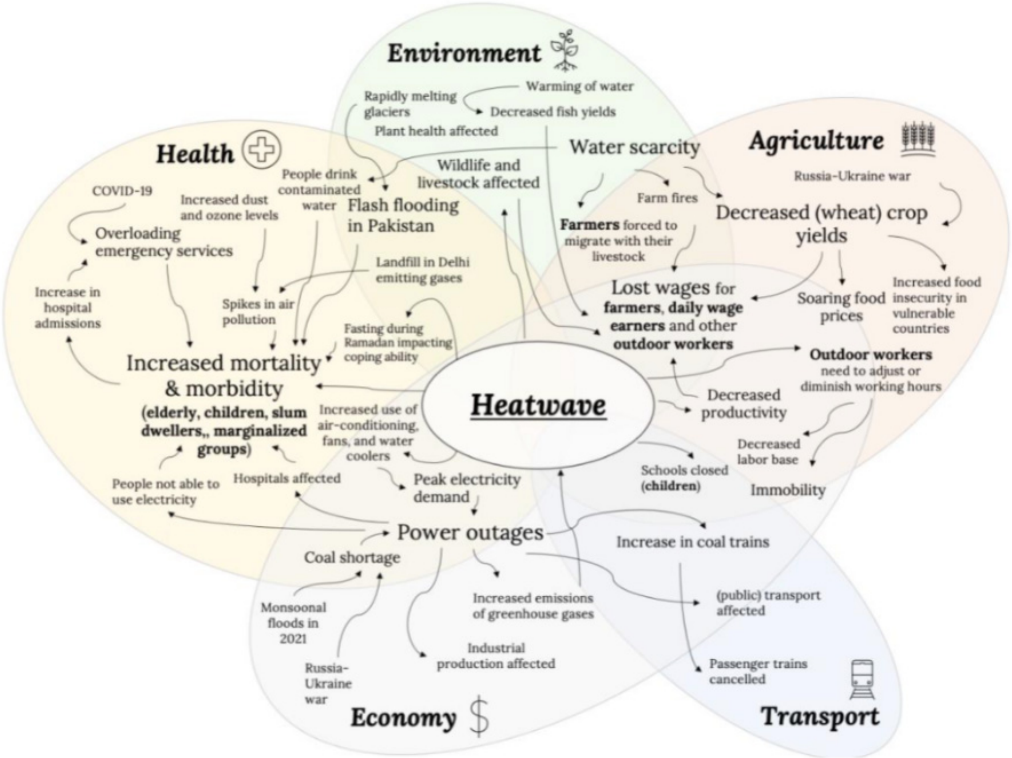
In India and Bangladesh, cyclones and floods cause

widespread devastation annually, while the north-eastern Himalayan region represents the greatest seismic hazard in the subcontinent. Bangladesh alone experiences some of the most devastating floods, with about 18 million people impacted yearly, especially during the monsoon season. According to a joint river commission, floods in Bangladesh are also caused by the release of upstream water from reservoirs in India. During the monsoon period, many Indian states also experienced floods, with Bihar, Uttar Pradesh and West Bengal facing severe conditions. Even for Pakistan, the 2022 floods submerged one-third of the country, affecting 33 million people, half of whom were children. The floods damaged most of the water systems in affected areas, forcing more than 5.4 million people to rely solely on contaminated water from ponds and wells.

Extreme heat gripped large parts of India and Pakistan and was made 30 times more likely because of climate change. On 15 May, the India Meteorological Department said that numerous observing stations reported temperatures of between 45 °C (113°F) and 50°C (122 °F). This followed a heatwave at the end of April and early May, reaching 43-46 °C. Temperatures also hit 50 °C in Pakistan. Daytime temperatures were between 5 °C and 8 °C above normal in large swathes of the country. (World Metrological Organization, 2022). The hot, dry weather impacted water supplies, agriculture and human and animal health (Centre for Science and Environment, 2022). In the mountainous regions of Gilgit-Baltistan and Khyber Pakhtunkhwa, the unusual heat enhanced snow and ice melting and triggered at least one glacial lake outburst flood. In its Sixth Assessment Report, the Intergovernmental Panel on Climate Change said that heatwaves and humid heat stress will be more intense and frequent in South Asia this century. Although Bangladesh is said to have six seasons according to the Bengali calendar year, marked by distinct weather features, these distinctions are getting blurred. Summers are becoming hotter and longer, now spanning from February to October, while the monsoon is also spread over a longer period between February and October, with the peak monsoon experiencing less rainfall.

Environmental Laws at State Level

Efforts to address these environmental problems in India, Pakistan and Bangladesh include the promotion of renewable energy, the implementation of



Conceptual Map of Impact Pathways during the Heatwave, Source: *World Weather Attribution*

stricter environmental regulations, afforestation programs, water conservation initiatives, and campaigns to raise awareness about environmental issues. However, these challenges are complex and require sustained national, regional, and local efforts to find sustainable solutions. Addressing the ecological problems of these South Asian states involves a combination of policy initiatives, public awareness campaigns, and international cooperation. Environmental laws in these states vary from one another, but they generally address similar issues related to environmental protection, conservation, and management.

The Environment (Protection) Act, 1986: For instance, in India, there is the Environment (Protection) Act, 1986, that empowers the central government to take measures to protect and improve the quality of the environment (Furqan, 2001). Besides, it has the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 to control water and air pollution, respectively. Similarly, Pakistan has a comprehensive legislation - the Pakistan Environmental Protection Act, 1997t that establishes the Pakistan Environmental Protection Agency and covers various aspects of environmental protection and conservation (Upadhyay and Ahmed, 2014). Bangladesh, too, has some laws related to the environment, such as the Environment Conservation Act, 1995, which establishes the Department of Environment and regulates environmental protection activities in Bangladesh. Although environmental laws are essential in South Asia to address a wide range of environmental challenges, implementing these laws varies, and there may be challenges in ensuring compliance effectively in the region.Bottom of Form

Conclusion: Towards Collective Initiative

Some collective initiatives have been carried out at the regional level in South Asia. The creation of the South Asia Cooperative Environment Programme (SACEP) was a milestone in regional collaboration in this direction. In parallel, the South Asian Association for Regional Cooperation (SAARC), established in 1985, has also promoted environmental cooperation among member states through its integrated action program on development and the environment. There is a need for efforts to mitigate the impacts of climate change, improve water and air quality, promote sustainable agriculture, and protect natural habitats. There is a need to adopt a collective approach among the three states of India, Pakistan and Bangladesh, which include:

1. Sharing knowledge and expertise in developmental processes and poverty eradication
2. Exchange of knowledge and research on earthquakes, landslides and seismic tremors, as well as their causes and probabilities
3. Evolving standard flood control measures and the development of regional flood warning systems
4. Establishment of a system of disaster management and preparedness at regional levels.
5. Sharing knowledge and measures for increasing agricultural productivity, air pollution control systems, reforestation, development of water resources, etc

These measures could be carried out within the framework of a regional environmental security treaty. It could provide an institutional basis for the growth of a common approach to environmental protection in the three states.

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