

## Uncovering the Complex Relationship Between Infectious Diseases and Climate Change: Implications for NTDs and VBDs in SEAR and Mitigation Efforts

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The relationship between infectious diseases and climate change is complex and multifaceted that has far-reaching implications, particularly for neglected tropical diseases (NTDs) and vector-borne diseases (VBDs) in the Southeast Asia Region (SEAR). We will present evidence of climate change and the emergence, transmission, and prevalence of infectious diseases, and explore associated effects on the Sustainable Development Goals (SDGs), highlighting mitigation efforts required from a health programs perspective.

The impacts of climate change on infectious diseases include alterations in temperature, precipitation patterns, and ecological systems. These changes directly influence the distribution, abundance, and behavior of vectors and the survival, transmission, and virulence of pathogens. Climate change affects the epidemiology of NTDs (e.g., dengue fever, lymphatic filariasis) and VBDs (e.g., malaria, Japanese encephalitis), exacerbates disease burden and hampers progress toward SDGs on health, poverty, and climate action.

Mitigating the impact of climate change on infectious diseases requires a comprehensive and multisectoral approach. Effective health interventions include strengthening disease surveillance systems, enhancing early warning systems and response capabilities, promoting vector control measures, improving access to healthcare services, building resilient health systems and fostering interdisciplinary collaborations and community engagement. Integration of climate change considerations into national and regional health policies is key, as well as fostering cross-sector collaborations to address the social, economic, and environmental determinants of infectious diseases. By understanding the underlying mechanisms, identifying vulnerable populations, and implementing evidence-based interventions, we can effectively respond to the evolving public health challenges posed by this nexus.

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