

Impact of climate change on public health - A case study from India

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Today, the environmental movement faces its biggest challenge of global warming. Human activity has increased the level of CO₂ by 36% from the 1750 pre-industrial level of about 280 ppm to its present level of 383 ppm. This has increased the global average temperature by 0.8°C, with another 0.6°C in the pipeline due to thermal inertia, producing a long-term impact of 1.4°C. The three main climate factors that affect malaria are temperature, precipitation, and relative humidity. In India, 0.8°C increase in temperature and 7% increase in relative humidity over and above 60%, has affected transmission of Anopheline mosquitoes during monsoon season which has enabled these mosquitoes to remain active and to spread most infectious diseases like malaria, dengue, yellow fever and encephalitis, putting millions at risk. There is historical evidence of associations between climatic conditions and vector-borne diseases. Malaria is of the great public health concerns in India and seems likely to be the vector-borne disease most sensitive to long-term climate change. Malaria varies seasonally in highly endemic areas. Early last century, the river-irrigated region of north India experienced periodic malaria epidemics. Excessive monsoon rainfall and high humidity were identified early on as a major influence, enhancing mosquito breeding and survival. Recent analyses have shown that the malaria epidemic risk increases around five-fold during heavy rainfall period which enhances malaria transmission because it increases relative humidity and modifies temperature.

Biography

S.K. Sharma has completed his Ph.D. at the age of 31 years from Bordeaux University, France and postdoctoral studies from Ecole Polytechnique Fédérale de Lauassne, (EPFL), Ecublens, Switzerland. He is the Head of the Environmental Education and geography Department at the Carman Residential & Day School, Dehradun, India. He has published more than 35 research papers and is member of 6 international scientific societies.

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