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A SOUTHEAST ASIAN TALE: CLIMATE RESILIENCE IN COASTAL INDIA

Global climate change has the potential to severely impact human health worldwide, particularly through waterborne pathways in coastal communities. The challenge lies in the ability to understand this relationship: detecting and understanding climatic trends as they relate to disease incidences requires large, consistent, clear datasets that distinguish seasonal and inter-annual variations in climatic trends. Theoretical, empirical, simulation, and socio-demographic data suggest growing interference from global climate change on climate factors including extreme weather events (such as cyclones and hurricanes), rainfall, and sea surface temperature, and on anthropogenic events such as water-related pollution. We reviewed socio-demographic survey analyses from indigenous, artisanal fishing communities along the coast of the Visakhapatnam District, Andhra Pradesh, to obtain a glimpse into the pressures that artisanal fishing communities have undergone over this generation's lifetime, due to urbanization and globalization, coupled with the increasing pressures of climate change.

Conclusions in this study are based on eight months of ethnographic research in coastal fisher communities and government interviews. Historical data collected from archives and interviews with territorial officials and NGO workers complement insights gleaned from extensive participant-observation and field collection among deep-sea fisher populations along the coast of Andhra Pradesh.

The researcher conducted district-representative semi-structured, in-depth interviews of 5 of the main villages in Visakhapatnam, Andhra Pradesh and 125 households. The researcher based this on the use of an interview guide (refer to Supplementary Information) in order to ensure that the interview data being collected was reliable and comparable. A voice recorder was used (upon IRB approval) to record all interviews; in parallel, detailed notes were taken throughout the interviews and utilized during the analysis process.

We found that disease, coastal erosion, climate change, extreme weather events, and sewage / pollution were the primary factors affecting the health of indigenous fisheries systems across coastal Visakhapatnam.

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We found that diseases were a prevalent issue within these artisanal fishing communities, including cholera, dengue, diarrhea, AIDS, and the flu. Disease stemmed from poor sanitary conditions, unplanned streets, poor road networks, illiteracy, socio-cultural pollution, and environmental pollution as some of the major drivers.

Climate-induced displacement and migration have become a common phenomenon of today's India, albeit still complex and multi-faceted as our study will repeatedly demonstrate. Environmental refugees often lack governmental support, proper infrastructure, and/or legal protection when they are forced to move across national boundaries.

Another prominent issue that arose during this study was climate change and environmental degradation – including the loss of forest space, pasture, farmland, agricultural land, and indigenous land.

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