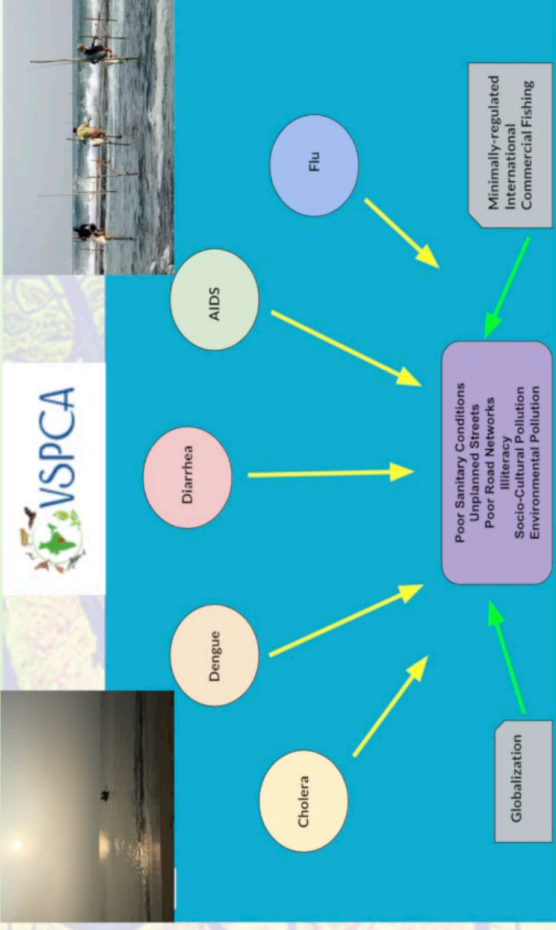


Climate Resilience in Coastal India

Krti Tallam, Pradeep Nath et al. 2021

Community Partner
VSPCA, or the Visakha Society for the Protection and Care of Animals, is an international nonprofit dedicated to sustaining animal and plant life in Visakhapatnam, India, recognizing that biodiversity is an essential aspect of human survival. They have 2 Cores:
 (1) We are striving towards creating "Marine Protected Areas," making Vizag a "Tree City" and ensuring that all animals in urban Vizag have care and protection.
 (2) We collaborate with fisher communities and indigenous people on cultural knowledge to augment scientific information. Our work is rooted in outreach, creating awareness, data monitoring/analysis.



Recommendations
 Our call is that we include our fishing communities in the context of our health policy solutions. The local dimensions of indigenous fishing are often overlooked and ignored. Local fisher-people should also be part of the problem solving as this study breaks down in greater detail. More attention needs to be paid to the enhancement of inclusive governance structures, the formulation and implementation of policies and regulations that take local fishing communities and fishermen into account, and accountable cooperation between local and national governmental authorities.

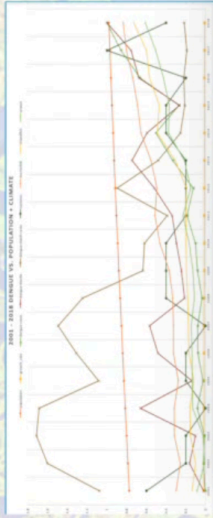
Acknowledgements
 (1) VSPCA India, (2) Fulbright Foundation, (3) GITAM University, (4) University of Oxford, (5) Stanford University

Background / Need
 Southeast Asia is one of the most sensitive regions to our pressing climate crisis. In an initial study, we presented the results of a comprehensive review of epidemiological linkages between cholera, malaria, and dengue to sea surface temperature, rainfall patterns, and extreme weather events. Another aspect of this work involves the socio-demographic study of coastal communities.

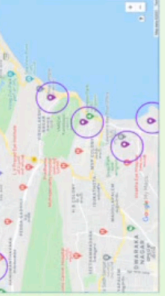


Fishing is one of the primary activities in the Visakhapatnam District. The city itself hosts one of the most prominent international fishing ports in the world:
 - The Visakhapatnam District is responsible for around 70 percent of the export value
 - An estimated 25 percent of the fishing industry labor of Andhra Pradesh
 - 118 primary fisher cooperatives

Outcomes
 (1) 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.
 (2) 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. Rapid deterioration of shorelines can cause catastrophic and long-term damage, while influencing the spread and movement of pollution and sewage, and thereby diseases, around the coastal ecosystem.



Project Description
 Conclusions in this study are based on nine 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.



Interviews:
 5 Mandals (villages)
 Full Interviews (full-time fisher men): 51 men
 Household surveys (full-time household managers): 74 women and young boys

Research Questions:
 (1) What are the limits to adaptation of artisanal fishing communities in Visakhapatnam, Andhra Pradesh, in the face of anthropogenic climate change?
 (2) How do these changes affect the health of residents in this community?
 (3) What diseases are most affecting the community?
 (4) How do these health issues relate to limits of adaptation between urban and rural communities?

Lessons Learned
 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. Other issues have included exacerbated poverty due to a weak socio-economic structure, poor educational facilities, little or no employment opportunities in local urban areas, no medical and health support, air pollution, water pollution, plastic pollution, and poor communication facilities. Indigenous communities in Andhra Pradesh are very often not included in any local or state-level decision-making, leaving them low on the list of priorities as cities and states continue to transform into a Western future. These issues essentially make indigenous communities significantly more vulnerable to the issues of climate change and disease.