

India Part 2: Script

Narrator: *This is Global Environmental Health chat, the podcast that explores environmental health issues that transcend national boundaries. This podcast is produced by the National Institute of Environmental Health Sciences.*

In the second part of our podcast series on air pollution, climate change, and health in India, we will hear about the work that the National Institute of Environmental Health Sciences (NIEHS) is doing to build a community of practice in India to increase their capacity to address these growing problems, and to build a community of researchers that can collaborate and train the next generation of researchers in India.

Dr. John Balbus Directs the NIEHS – World Health Organization Collaborating Center for Environmental Health Sciences, and co-chairs working groups on Climate Change and Human Health at NIH and the US Global Change Research Program. He says that of all the places in the world, India faces some of the most severe health challenges related to air quality and climate change, yet the country historically has lacked the public health capacity to address these problems.

Balbus: On the one hand, India has some of the most severe vulnerability and exposures to both air pollution and climate change. The cities in India are currently experiencing some of the worst air pollution ever recorded in history. And they've experienced severe heatwaves, severe floods, there's a lot of low-level coastal areas that are very vulnerable to sea-level rise. There's a lot of vulnerability and a lot of exposure to environmental health hazards. At the same time, there hasn't been a lot of education and training of environmental health experts.

Narrator: In order to help build the capacity to address environmental health concerns related to climate change, Dr. Balbus collaborated with a researcher from India who was looking to form partnerships in the United States. Together they started the Understanding Climate and Health Associations in India (UCHAI) initiative.

Balbus: We started planning an initial workshop to try to start building a community of practice on climate and health in India. We wanted to reach out to other public health students and public health professionals, raise awareness about climate change and health issues, and start to increase the skill sets to be able to help with resilience measures for the Indian Health System.

Narrator: Dr. Balbus says that one of the ways NIEHS is bringing value to the UCHAI initiative is by bringing in outside expertise and providing a platform for experts from diverse disciplines in India to come together and work across traditional silos of expertise.

Balbus: We've had several workshops now where we bring people together and it's both our community of practice, as well as other political leaders and decision makers in the Indian government in the climate and health areas, to bring them together with the experts.

So the parts of the UCHAI project that are working to develop the communities of practice are all really trying to do this with Indian partners, really trying to build their capacity to create this community of practice. While we played an important role as a convener and as a motivator for the creation of the community of practice, it really is the experts there who are doing this.

Narrator: In addition to convening meetings and bringing experts together, UCHAI has created several communication platforms, including a website where reports and other information can be shared. They have also worked to connect UCHAI efforts with other NIEHS grantees to develop curricula and educational materials for people at many levels, and to build adaptive capacity for climate change. Together, the UCHAI initiative is working to connect a community of practice to action in India to protect human health.

Balbus: There are a number of initiatives that have been started by the Indian government to address climate change and health. There is a center of excellence for climate and health in the National Center for Disease Control in India that is working on training and capacity-building of state health departments and we've been working with them.

One important opportunity is the bilateral work between the United States and India on using meteorological data and applying it to the development of adaptation plans, and using local data to try to establish areas where climate sensitive diseases are likely to become more of a problem, and to work to make state action plans for climate and health adaptation more specific and more concrete.

Narrator: Through the partnership with UCHAI, NIEHS is using its resources and knowledge to help address the most severe environmental health problems by building the capacity of researchers, organizations, and local governments to take action to protect people's health.

Others at NIEHS are also working to address the challenges facing India from a slightly different angle.

Dr. Srikanth Nadadur is a Program Director at NIEHS who oversees a research portfolio on air pollution and human health. He says that with rapid urbanization and an increased number of vehicles on the road, air pollution in India is increasing rapidly as well.

Nadadur: There is an awareness in the public, and even the government is accepting, that there is an impact of air pollution on public health. There is a trend of increased incidence of asthma and exacerbation of asthma in children. And also increased incidence of diabetes and cardiovascular disease, so, there is definitely a certain factor of air pollution contributing to this based on the knowledge we gained in U.S., but how to address it is the issue they are facing. What we are seeing is inability to capture the impact of air pollution on public health.

Narrator: To begin addressing the issue of air quality and health, a memorandum of understanding was signed between former President Obama and Prime Minister Modi that enabled federal researchers from the U.S. to participate in a fellowship in India. Dr. Nadadur was selected for this fellowship and spent three months in the Economics, Environment, Science, and Technology branch of the U.S. Embassy in New Delhi.

Nadadur: My goal was to interact with the different agencies in government of India to initiate the dialogue on how to start the process of addressing the air quality and health issue, and it's not an easy task.

Narrator: Dr. Nadadur quickly determined that the best approach would be to focus on addressing the issue of air pollution and health from a scientific perspective rather than a political perspective.

Nadadur: So, that helped me to have more interactions with scientists and physicians working in different parts of India, and I connected these interested investigators in India with the investigators in

the U.S. who are working in this area of air pollution and health. So, we formed a community of researchers to address three issues. One, to address the health issues. second, provide training opportunities. And third, providing expertise in more accurate assessment of personal exposure to air pollution.

Narrator: Before this community of researchers began, Dr. Nadadur says that researchers and physicians were isolated and essentially working alone. By bringing people together into a single forum and promoting collaborations between exposure scientists and physicians across India and the U.S., they have been able to meet at workshops, conduct studies, and write papers to guide efforts to address the issue of air pollution and health in India.

Dr. Nadadur's efforts to create a community of researchers in India is helping to translate the knowledge and expertise of robust research that has been done in the U.S. and elsewhere to benefit researchers in India working to address the health effects of air pollution.

Nadadur: There is no need to reinvent the wheel in India. There is a knowledge base and expertise available in the U.S. and this can be easily applied and translated. The scientific community is very much interested, but to generate data that is pertinent to the local effects of the air pollution we need to start working together, and our investigators are interested in that.

Narrator: Moving forward, this community of researchers is working to create opportunities that will support the development of a virtual consortium of researchers. They are also working to increase focus on training to promote capacity building and exchanging ideas. Dr. Nadadur says that providing training opportunities in India, especially related to air pollution epidemiology, is critically important.

Nadadur: There is not much knowledge available or training available for the graduate students in epidemiology in general and with air pollution epidemiology it is very limited, so we are planning to see whether we can have some summer institutes where the U.S. faculty can go and teach in India and these training modules can be video recorded and made available for classrooms across India, that is our goal.

Narrator: By working together and leveraging existing knowledge and resources this community of researchers is beginning to make strides in addressing India's growing air pollution problem. Together with the community of practice led by Dr. Balbus that is working to address the impacts of climate change, researchers, physicians, communities, and government agencies are finding new ways to collaborate and work towards a common goal of protecting human health.

Thanks to today's speakers, Dr. John Balbus and Dr. Srikanth Nadadur, for joining us.

You can learn more about climate change, air pollution, and health in India by visiting our website at <http://www.niehs.nih.gov/geh>.

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