

Mapping India's Kumbh Mela



A year-long interfaculty, multi-disciplinary partnership among:



HARVARD Global Health Institute



HARVARD BUSINESS SCHOOL



Harvard University
Graduate School of Design
Department of Urban Planning and Design



HARVARD
Faculty of Arts and Sciences



HARVARD
School of Public Health



Photo credit: Dinesh Mehta



The Kumbh Mela is a Hindu festival where pilgrims seek religious purity by ritual bathing at the point where sacred rivers meet

55 days; 30 Million Pilgrims



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Urbanization, Religion, Environment



Photo credit: Susan Holman

Together with the South Asia Institute, Harvard Global Health Institute is co-sponsoring the project as part of HGHI's focus on urbanization in environment and health. The Kumbh helps us understand the role of culture and religion in these intersections.

The holy river Ganges is at the heart of the Kumbh. Its water quality (seen here from one of the pontoon bridges) was a big concern for everyone. This year's festival emphasized a "Green Kumbh" movement, as part of the events and talks by religious leaders.



Team: Religion

Led by Professor Diana Eck, the Project team members who focused on religion met with sadhus to discuss everything from beliefs and faith stories to environmentalism, performance, health, flowers, and sanitation.



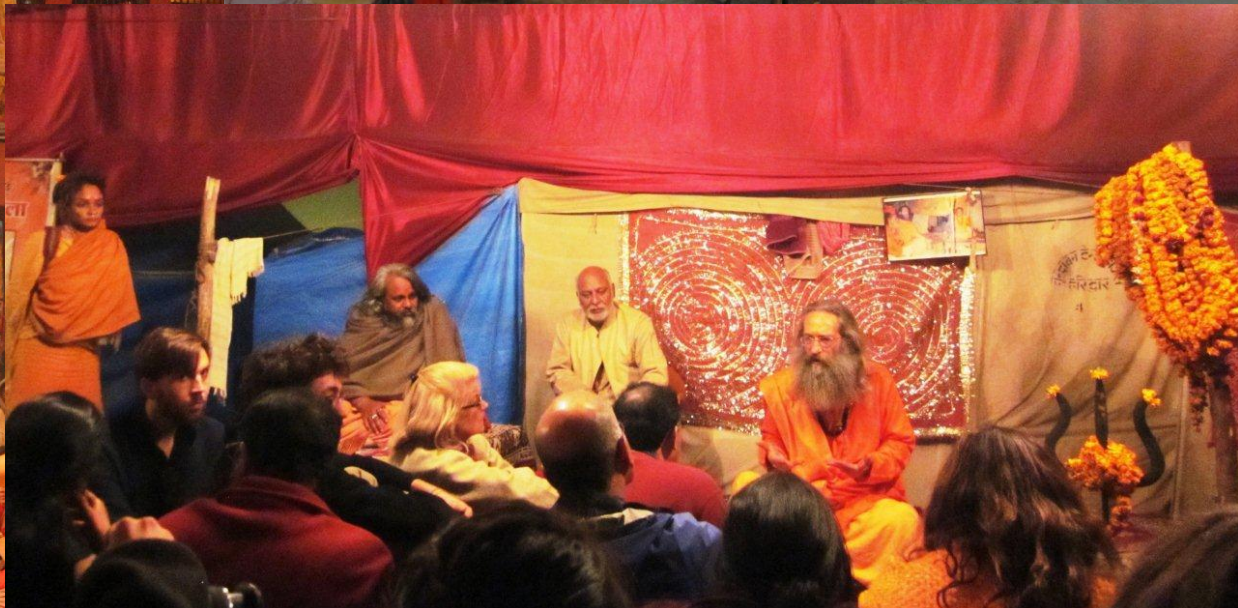
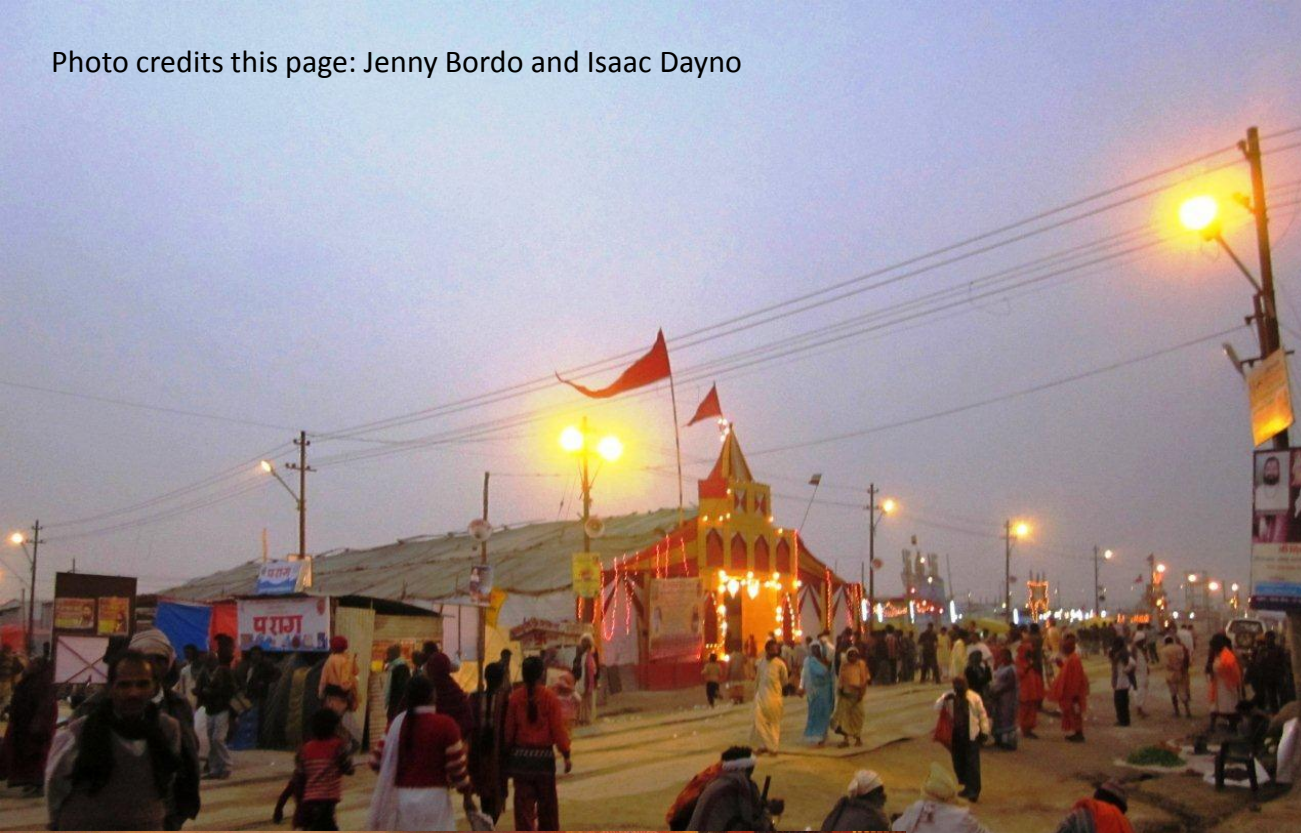
Here they are featured on TV in India as they help perform a river “clean-up” followed by a “holy dip” in the river.



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Photo credits this page: Jenny Bordo and Isaac Dayno



Team: Urban Design and the temporal environment



Graduate School of Design teams, led by Professor Rahul Mehrotra, "mapped" dynamics of the Kumbh's "temporal urbanism," with plans, diagrams, and aerial photography. They are examining the relationships between such an urban infrastructure and festival events (processions, bathing, night-time celebrations) to learn lessons for urban design in other "temporary" settings.

Aerial view of the Kumbh; photo credit: Alykhan Mohamed



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Team: Sanitation, Toilets

A team of HSPH and Harvard College students led by Dr. Richard Cash (HSPH), co-funded by HGHI, is focusing on toilet facilities and sanitation*



Photo credits: Susan Holman



For numbers on “health and sanitation” facilities at the Kumbh, see the official site,
http://kumbhmelaallahabad.gov.in/english/kumbh_at_glance.html



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Toilet-shower facilities in our “luxury” tents



Children using open riverbank



Indoor flush “zero discharge” pit latrines with eco-friendly messaging outside



Toilets in Allahabad public health/medical school facilities

“Biodigester” toilets that use bacteria to convert waste into liquid that is then with filtered and leached into the ground; tanks include outdoor sink, soap, and towel.



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Of the 35,000 individual toilets on site, most are these corrugated metal or canvas “pit latrines” with a drainpipe that channels liquid waste into the ground; the surrounding earth is treated and mixed with “bleaching powder” to keep odor at a minimum



Team: Business

Teams from Harvard Business School are exploring various aspects of exchange during the festival, including urban infrastructure, market dynamics, and econometric data (cell phone use).



Can you guess one of the health risks suggested by the items for sale in the photo above?



Photo credits: Susan Holman



Team: Business



Answer: Chewing tobacco

33% of Indian men consume smokeless tobacco. Approximately 52% of oral cancers in India are attributable to its use. (*Lancet*, 18 Aug 2012).

We could buy it at many roadside vendors at the Kumbh for 10 rupees (about 20 cents)

Teams from Harvard Business School are exploring various aspects of exchange during the festival, including urban infrastructure and econometric data (cell phone use).



Photo credits: Susan Holman



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Team: Health Systems Surveillance



Two teams from the Harvard University FXB Center for Health and Human Rights, co-funded by FXB and the Harvard Global Health Institute, are engaged in a health surveillance study. At left is the team on site during January: l-r: Neil Murthy, MPH, Pooja Agrawal, MD, MPH, and P. Gregg Greenough, MD, MPH.



Left: a sector hospital ER bed. Right: each sector hospital is equipped with four disaster-preparedness kits: for drowning, burns, stampedes, and bomb blasts.

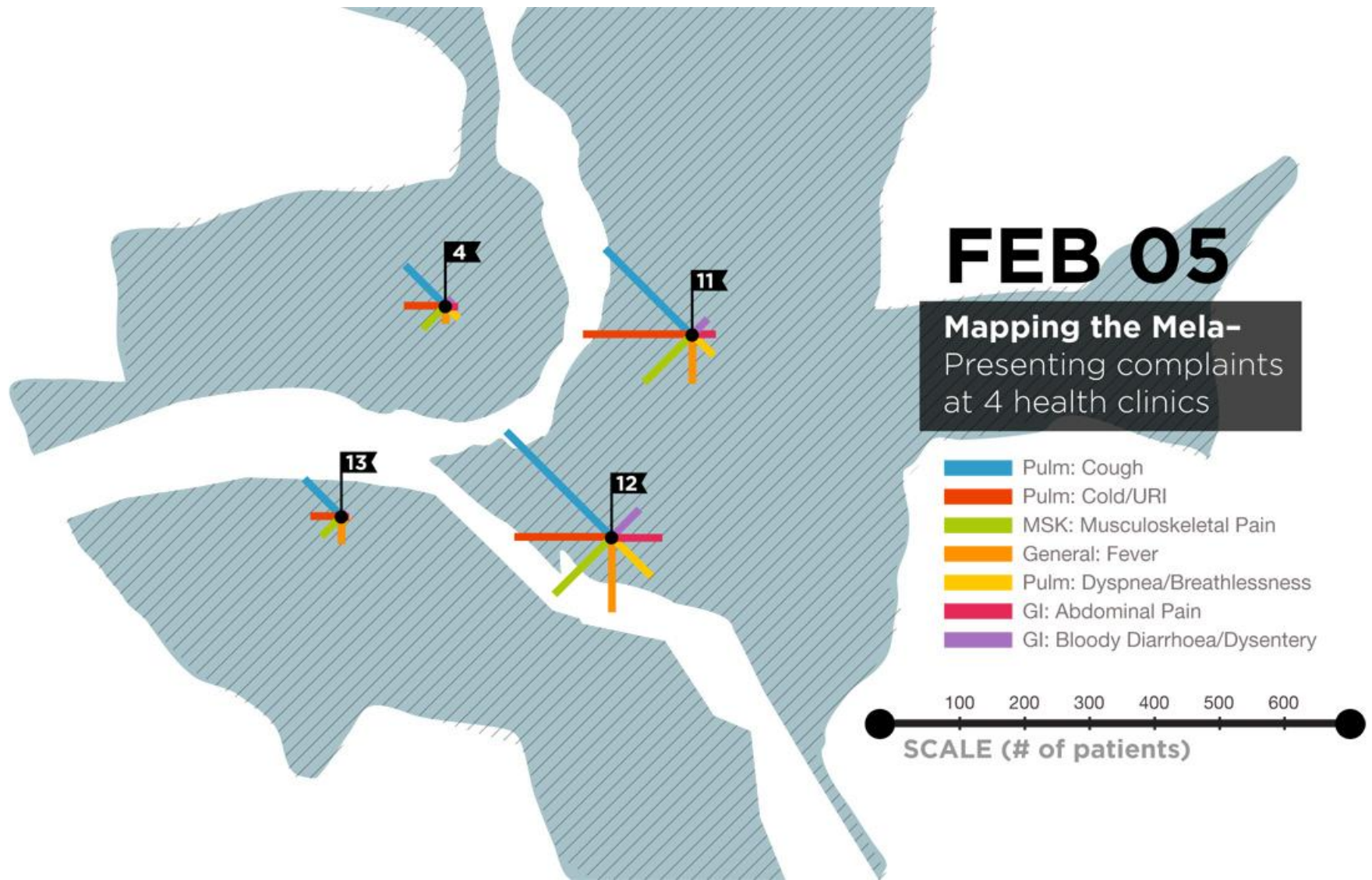
During January, the FXB team met with local public health officials and physicians and visited sector hospitals throughout the site, in preparation for daily data collection of health conditions. Satchit Balsari, MD, is supervising data collection during February from 4 sector hospitals. The next slide illustrates one day's data collection:



Photo credits: Susan Holman



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http://fxbkumbh.files.wordpress.com/2013/02/clinic-infographic_020713.jpg, reprinted in *New York Times* blogpost, 2/8/13, at <http://bits.blogs.nytimes.com/2013/02/08/can-big-data-from-epic-indian-pilgrimage-help-save-lives/>

Global Health and Urbanization:

What can we learn from the Kumbh Mela?

governance and risk control



The “street-bleaching-powder man”



Daily DDT blast



Traffic police



Trash pickup at the sangam

Lifeguards



Photo credits: Susan Holman



Use of alternative medicines



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Global Health and Urbanization:

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water and the environment



Photo credits: Susan Holman

Water was piped in from the city for washing and drinking; according to news reports, fresh water was also released from an up-river dam into the Ganges during the festival.



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Pilgrims also drank the bathing water of the Ganges and collected it to take home

What's Next?

- Teams complete on-site research by March 2013
- Research-sharing sessions, spring 2013
- Spring 2013 GSD seminar: “Kinetic City: Research Seminar on Temporal Urbanism (ADV-09129)”
- Team-based projects and products (ongoing)
- HGHI-SAI collaborative narrative on Harvard at the Kumbh (in development)
- Other learning-content-based educational public goods (tbd)



Garland vendor, Allahabad



Thank you, Harvard! Thank you, India!



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On-the-Ground Project Team

The South Asia Institute

Tarun Khanna, Director, Jorge Paulo Lemann Professor, HBS, Meena Hewett, Associate Director, Jenny Bordo, Outreach and Communications Officer, Namrata Arora, Associate Director, India Office.

The Harvard Global Health Institute

Susan Holman, Senior Writer.

Religion and the Humanities at the Kumbh Mela

Faculty lead: **Diana Eck**, Professor of Comparative Religion and Indian Studies and Fredric Wertham Professor of Law and Psychiatry in Society at the Harvard University Faculty of Arts and Sciences and Harvard Divinity School.

Student researchers: Kalpesh Bhatt, Isaac Dayno, Felix de Rosen, Anna Kneifel, Brenna McDuffie, Nicholas Roth, Rachel Taylor and Ned Whitman.

Urbanism at the Kumbh Mela –

Faculty lead: **Rahul Mehrotra**, Chair, Urban Planning and Design, and Professor of Urban Design and Planning at the Harvard Graduate School of Design.

Student researchers: Felipe Vera Benitez, Namita Dharia, Vineet Diwadkar, Oscar Malaspina, Alykhan Mohamed, and James Whitten.

On-the-Ground Project Team Cont.

Business at the Kumbh Mela

Faculty researchers: **John D. Macomber**, Senior Lecturer of Business Administration at Harvard Business School and **Tarun Khanna**, Director of the South Asia Institute and Jorge Paulo Lemann Professor, Harvard Business School. **Emily Breza**, Assistant Professor of Finance and Economics, Columbia Business School, **Arun Chandrasekhar**, Assistant Professor of Economics, Stanford University.

Technical resources: **Todd Mostak**, a Harvard graduate in Middle Eastern Studies and former researcher at the Harvard Kennedy School now based at MIT, **Professor J.P. Onnela**, Biostatistician, Harvard School of Public Health.

Student researchers: Vaughn Tan and Tiona Zuzul.

Public Health at the Kumbh Mela

Sanitation team faculty lead: **Richard Cash**, MD, MPH, Senior Lecturer, Harvard School of Public Health.

Student researchers: Candace Brown, Stephanie Cheng, and Leila Shayegan.

Health surveillance researchers: **P. Gregg Greenough**, MD, MPH, Assistant Professor, Harvard School of Public Health and Harvard Medical School, an emergency physician at Brigham and Women's Hospital, and Director of Research at the Harvard Humanitarian Initiative; **Pooja Agrawal**, MD, MPH, a former International Emergency Medicine Fellow at Harvard and now Clinical Instructor in Emergency Medicine at Yale; **Neil Murthy**, a researcher and medical student at the University of Texas; **Satchit Balsari**, MD, MPH, Associate Faculty at the Harvard Humanitarian Initiative and Emergency Physician at New York-Presbyterian Hospital/Weill Cornell Medical College.