

Mapping the Kumbh Mela:
Report from the Harvard University Team Studying the Kumbh Mela
January 31, 2013

A multidisciplinary team of over 50 faculty, staff and student researchers from Harvard University traveled to Allahabad, India in January 2013 to document and analyze the processes involved in the successful functioning of the Kumbh Mela, the world's largest religious festival that occurs every twelve years, lasts 55 days, and draws millions of visitors to a temporary, purpose-built tent city on the banks of the Ganges and Yamuna.

This year-long interfaculty project is coordinated by the South Asia Institute at Harvard University and the Harvard Global Health Institute, as part of their focus on Urbanization. The brief below highlights the multi school research, touching upon interdisciplinary issues across a number of complementary fields – urban studies and design, religious and cultural studies, environmental science and public health, technology and communications.

Religion and the Humanities:

Professor Diana Eck led a group of graduate and undergraduate researchers who studied aspects of the Kumbh Mela related to religion and the environment. Professor Eck and her students visited several akharas (Hindu religious organizations), including the Juna Akhara, one of the oldest such organizations in India. Research topics included: the ritual use of flowers and their environmental impact at the Kumbh Mela; diversity of sacred trees; the Ganges River—both its pollution and the effects of dams; the relationship between faith and science; religious performances at the Kumbh Mela, including *lilas* or playfulness, as part of the rituals; the Green Kumbh movement; and the various religious groups and their identity at the Kumbh Mela.

Urbanism at the Kumbh Mela:

Professor Rahul Mehrotra led a team of graduate student researchers whose goal was to map the Kumbh Mela. At the macro level, students documented the spaces at the Kumbh Mela using two- and three-dimensional media, including plans and sections, diagrams, perspectives and aerial photography and film. The team explored two complementary conditions: (1) the physical structure of the settlements, including the hierarchy of residential sectors, the attribution of spaces for public amenities, the location and organization of infrastructures, and the proximity of these spaces to the Sangam, the confluence of the holy rivers; and (2) the temporal, fleeting events that define the festival in a much more ephemeral way, including the routes that the pilgrims take between different parts of the city, the moments of bathing, and the nighttime celebrations. Among other issues, the group is exploring how these two parts function together, and how the systems that emerge can be applied to sustainable urban design in other nations and contexts.

At the micro level, the team commenced documentation of the design and construction of the individual akharas and the temporary settlements of the pilgrims who reside at the Kumbh Mela for the 55 days of the festival.

Business at the Kumbh Mela:

There were two teams of researchers from Harvard Business School at the Kumbh Mela. The first team has been engaged in a clinical study of the structure and governance of the Kumbh in order to understand how large scale urban infrastructure can be deployed in reasonably short order. The output for this research will be a series of articles and case studies focused on distilling implications for public policy and management.

The second team is conducting an econometric study of the formation of networks and groups in large scale, diverse, and reasonably inchoate settings. The study uses primary data collected in real time during the weeks of the Kumbh, as well as a proprietary cell phone usage dataset.

Public Health at the Kumbh Mela:

Two teams of public health academics and experts, medical doctors, and students examined the health system at the Kumbh Mela.

Study around sanitation – One research group documented the diversity and services of toilet facilities constructed for use during the festival. These toilets range from a simple corrugated metal or canvas enclosure around a drainpipe channeling liquid waste into the ground, to sophisticated “bio-toilets” that use bacteria to convert solid waste into liquid that is then filtered and leached into the earth.

Health surveillance study – A second team is working closely with the festival’s health administrators, local public health students, and volunteer researchers on a health surveillance study at the Kumbh Mela, which aims to collect daily data on every patient visit at a representative cross-section of Kumbh Mela sector hospitals. The group seeks to understand how disease occurrence during the Kumbh Mela may be clustered, and to explore the provision of allopathic health care to this transient population. Specifically, the team hopes to digitize and analyze the data from five hospitals located in densely occupied sectors. Results from the surveillance team could be useful to the Kumbh Mela health care providers as it identifies spikes in disease and trends seen in real time. Data and results will be shared with officials and local health care providers, and could shed light on planning for subsequent religious gatherings.

Next Steps:

Through exchange of knowledge between disciplines, the research and development from “Mapping of the Kumbh Mela” project will result in building educational tools and resources pertinent to the study of religion, urban design, business, and global health. The project will also lead to possible solutions to issues such as the design for disaster and medical response, rapid urbanization, management of public goods and services, communication & connectivity through mobile technology, and health care for large populations inhabiting temporary settlements.

For more information, please visit:

Main project page: <http://southasiainstitute.harvard.edu/kumbh-mela/>

Project blog: <http://mappingthemela.wordpress.com/>

Resources on the Kumbh Mela: <http://globalhealth.harvard.edu/kumbh-mela-resources>

HBR blog: <http://blogs.hbr.org/hbsfaculty/2013/01/a-closer-look-at-one-of-indias.html>

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.

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.