Workshop on Pilgrimage: The Kumbha Mela
Session 8 Notes

November 12, 2012

Today's session was an opportunity for sharing ongoing projects related to public and global health and sanitation at the Kumbh.

Public website: Jenny Bordo (SAI), Amanda Brewster (HGHI) and Susan Holman (HGHI) presented a project website that is open to public view and being developed by staff at the South Asia Initiative and the Harvard Global Health Institute (at HGHI, the Kumbh resources page is part of a priority focus portal on urbanization.) The links are:

1) http://southasiainitiative.harvard.edu/kumbh-mela/ -- Home for project overview, internal, and administrative resources;
2) http://globalhealth.harvard.edu/kumbh-mela-resources/ -- Home for teaching and learning resources, including materials and links to project work and related research and teaching activities across the University.

An extensive annotated bibliography is available as a preliminary tool; it is also posted on the course isites; please direct additional references or corrections to Susan_Holman@harvard.edu. The resource selection was based on all course readings, citations mentioned in class, and several literature searches, and is intended to reflect a broad understanding of global health and its interconnections as they relate to social determinants, conditions, and responses (for this conceptual context, please refer to the slides and handouts from Professor Sue Goldie's class presentation several weeks ago).

Project participants are invited to post additional tools on this public site, including (but not limited to): photos (with due permission/credits), maps (or links to maps at other sites), teaching presentations such as slides or handouts, additional "fast facts", and other media (or links to other media). We envision these web pages as the eventual home for information about cross-university educational public goods that will develop and emerge from the project over the next year.

Rahul said they are getting some beautiful pictures from the recent site visit; coming soon.
Diana mentioned powerpoints related to the Ganges on other websites that would be suitable for inclusion.

Public health research at the Kumbh: Dr. Gregg Greenough, an emergency physician based at Brigham and Women's Hospital and part of the Harvard School of Public Health team for the project, introduced Neil Murthy, MD, MPH, who will be part of the HSPH team at the festival, and Pooja Agrawal, MD, MPH (listening in by phone), who is currently an emergency physician at Yale, an international ER fellow with experience in displaced populations. Two other HSPH graduate students will also participate. The goal is to establish a database on disease risks and modeling, drawn from data collected throughout the entire festival. Team faculty are currently spread out, from South Sudan to California. Senior faculty on this team on the ground will be Dr. Richard Cash, HSPH Senior Lecturer on Global Health, who is based in Delhi; Dr. Cash will bring several of his students from Delhi. Dr. Cash has affiliations with local health organizations, such as the Ministry of Health, Public Health Foundation of India (PHFI), and the All India Disaster Mitigation Institute.

The team hopes to look at disease risk factors and health care facility use at the festival, particularly as it relates to water, sanitation, shelter, and health care delivery. Gregg identified a number of questions and issues their team seeks to address, for ongoing conversation:

- Where are the hospitals and clinics? Where are the allotments going to be?(Rahul suggested the GSD and HSPH teams work on this question together)
- Still needed: links to health decision makers
- What would we expect in terms of disease in this population?
- What preventive measures are in place?
- Patterns and frequency of disease outbreaks?
- Goal: to go to the hospitals/healthcare facilities and get data – heath care access, utilization of services

Diana said one would expect the Allahabad Medical School to want to be engaged in this project. The records of the last Kumbh list them as having: a 100-bed hospital in the "Parade area" of the festival, in addition to: a "Superspecialty Institute" (?), 10 circle hospitals, 14 primary health care centers at the main entry parking lots, and 23 emergency facilities.

Rahul asks: How does the governance model inform this?

Diana notes that this year medical facilities will include 10 Ayurvedic, 10 Homeopathic, and one Unani facility. Leila Shayegan said that she has some contact info for at least a few of these organizations and will share with Gregg.

Class asked Gregg: What diseases will you look at?
A: Primarily Diarrhea (often hard to identify specific cause), as well as measles and malaria.

Vaccination at the Kumbh was briefly discussed, although without strict controls it's hard to vaccinate a dynamic population; Diana notes that in 1989 one couldn't get off the train without being vaccinated.

The class also asked Gregg for advice for the team, travel clinic immunizations he recommends? He suggested, for example: typhoid, yellow fever, hepatitis, tetanus, meningitis; rabies may not be needed; dengue is endemic (mosquito vector) but unfortunately there is no vaccine. Some discussion about cholera. Go to the Travel Clinic and ask their specific advice about what is best for you. Gregg may also be able to provide information or recommendations to team members about things to have in a travel kit. (for further discussion)

Jennifer Leaning is interested in health as it relates to children who may be present at the festival; it's unclear how many children will participate. It was suggested that perhaps children will be present as roving vendors.

Diana asked about the do's and don'ts of stampede risks. Key here is prevention: don't get in a stampede! Rahul said two zones are most likely to be high risk for potential stampedes: (1) the bridges (monitored by police stations), and (2) the bottleneck that will lead to the Sangam, especially on major bathing days. Because most of the area otherwise is wide and flat, it has less risk of stampedes.

Gregg's discussion concluded with an agreement that he and the GSD folks will share and brainstorm together on mapping questions.

Sanitation/Toilets at the Kumbh: Leila Shayegan

Undergraduate Leila Shayegan provided a detailed Powerpoint presentation and discussion on toilets and sanitation issues at the festival, based on extensive research and conversation with Dr. Cash and his "mapping toilets" project in Mumbai. She admits many more questions than answers at this point. Poor sanitation is a key underlying cause of most malnutrition in India, and waterborne diseases killed 4.5 million children under 5 world wide between 2007 and 2010. A 2010 UN study estimates that for every $1 spent on sanitation, one can expect $34 return in life quality and health. Yet 60% of the world's open defecation occurs in India alone. India's former Rural Developmnent Minister, Jairam Ramesh, famously said that India needs "more toilets than temples," and has urged radical action to move in this direction, such as encouraging women not to marry into a house that does not have a toilet. [Rahul says in Mumbai the statistics are: 1 toilet for every 1040 people]   While 59% of Indians have mobile phones, only 47% have toilet access—and this includes access to pit latrine type toilets (what we think of as "outhouses"). Leila looked at research on how disease and sanitation intersect at the Kumbh in historical records, particularly the case of cholera: Cholera is endemic to the lower Ganges. In 1817 pilgrims at the Kumbh began the first Asiatic Cholera pandemic. Outbreaks occurred in Hardwar in 1858 and 1879. Cholera continues to be a risk, as cited in e.g., the 2012 Lancet mass gatherings health series of articles. Since 3 of the world's 5 largest human gatherings occur in India, this is a serious concern.

Other statistics she found include: 54% of Indians defecate openly; "Improved" toilets mean those with waste that is hygienically separated; 69% of the rural population defecate in the open; the urban estimate is 18%, which sounds low until you realize this is nearly 1 in every 5 people. However, the issue goes beyond a rural / urban divide and is also a function of socioeconomic class. 94% of the richest quintile have access to a toilet. As these numbers affect water contamination, keep in mind that rural dwellers are 4 times more likely to be using "unimproved" water sources for their drinking water.

Leila looked at the types of toilets provided at past Kumbhs, such as pit latrines, those with pipes, those where some water is used for each flush, etc. At the 2001 Kumbh, these included 21,000 "PRAI" toilets ("Planning and Research Action…?"), 51,000 deep trench toilets, and 20 "Sulabh" complexes with 20 toilet seats and 100 urinals in each. For more about Sulabh toilets, visit http://www.sulabhinternational.org/. Sulabh has done much to try and improve toilet use and clean-up, including a focus on paying sanitation workers well for their role in keeping the toilets clean. Their massive toilet-bath complex at Shirdhi is one example of a (permanent) model site.

Leila offered preliminary estimates to illustrate that the numbers provided for the Kumbh seem likely to be significantly inadequate. Gregg Greenough said, "To put the matter in perspective, in emergency refugee situations, the plan is 50 people per toilet per day and it's expected to move to 20 people per toilet per day as the [emergency disaster] situation improves."   She described the toilet mapping project, directed by HSPH student James Potter in Mumbai. More on this project is available at http://india.blogs.nytimes.com/2012/07/22/mapping-toilets-in-a-mumbai-slum-yields-unexpected-results/ http://www.gsd.harvard.edu/ - /news/mapping-mumbai-s-toilets-tonight-at-5-pm.html http://vimeo.com/49924587

Children continue to defecate in the open even with improved toilet access; Rahul noted that this is because the holes are too big to be safe for kids to squat over; they risk falling in! So frequently kids will use the toilet facilities but defecate between the toilet areas. Women's safety in toilet facilities at night is another risk, since often contractors will take the bulbs out at night to save electricity.

Leila hopes to develop a project based on these issues during her time on site. Her research raised many questions about the Kumbh toilets: How are they operated? Installed? cleaned? Where are they located? Does the location support evidence for religious or social hierarchies? How are they placed in relation to food preparation activities? Eating? Rivers? Demographics—what is the demographic to be served? Men? Women?

Elderly? families? Who are the sanitation workers? Where do they come from? What are they paid? Is there water available? She also seeks more information about the sewage treatment plant in sector 5. Based on her interest in mathematical modeling, she suggests a "traveling repairman algorithm" as an idea for facilitating toilet servicing.

Rahul notes that the Akharas will have their own toilet facilities. We don't know enough about the governance structure of the akhara. Diana says according to Rampuri, there are 3000 tents in the juna akhara encampment, housing 200,000 naga babhas.

[Note: "Parade Ground" is the government sector—where the government puts its funding.]

Anna, who is working on "Green Kumbh" initiatives, said that this year they are introducing some very interesting new eco-toilets, and plan to place them actually next to the river, in order to encourage people *not* to defecate in the river.

Elizabeth Lopez: [who will not be going to the KM] is interested in the roles of government at the Kumbh as it relates to religious practice. For example, who gets access to the water when? Several articles in recent *Times of India* about preferntial treatment of Allahabad raise questions about how this will benefit the pilgrims and how it will affect those in the surrounding region. She notes especially reports on how the government is preparing for the 2015 KM in Nasik, where it will have a more permanent infrastructure. Rahul emphasized the role of elections in influencing the government to use the Kumbh as an opportunity to display efficiency. The Sulabh toilets are probably funded by wealth private trusts.

Jeannie Tse: [also not going on the trip] has a number of questions related to health at the Kumbh. What handwashing facilities are there? Where are they located? How close in relation to food preparation? How much do they depend on the private sector? What are the inequalities? She is particularly interested in the risk of sexual assault on women at the Kumbh, knowing its prevalence from her summer research opportunities in India. Are there NGOs at the KM that will have skills to address this and/or a message to women who might be at risk or affected? Will there be an access point? Elizabeth Lopez says she did a project on victims of violence where she noted that such responses are usually part of a larger organization. Is there a response center at the Kumbh? Any provisions at the health facilities? Gregg notes that this is something their team can be alert for, at least as it relates to women who may come for violence-related health care.

Final comments: Concluding discussion today looked at maps on the official 2013 KM site and 2007 Ardh Kumbh site; these include "flash points" locating hospitals. Diana said there is a report that there will be a real-time assessment of water quality during the Kumbh this year; we need more information about who is doing it. With plastic bags prohibited, will plastic water jugs be permitted?

Plan next 3 weeks:
Next week media mela and the spiritual mela. Re-read "Seeing and not being seen" and Anna King piece
Nov. 26: Environmental / Green Kumbh
Dec. 3: plays, dances, entertainment