

URBANIZATION

March 30, 2015

Toilets and Sanitation at the Kumbh Mela

Teaching Note

Case Synopsis

The Kumbh Mela festival, the largest mass gathering in the world, takes place in Allahabad, India, once every 12 years in a temporary “tent city” built on the sand flats in the annual dry season at the meeting point of three rivers sacred to Hindus around the world—the Ganges, Yamuna, and (historical but now mythic) Saraswati. During the 55-day festival in 2013 it was estimated that over 100 million people would “take a dip,” practicing a sacred bathing ritual that, according to Hindu beliefs, would release them from their sins and the endless cycles of reincarnation. The construction of the site—and organization of the facilities to support it—follow a detailed system that has developed over decades of close collaborations with national, state, and regional governments and religious leaders, and includes the provision of clean drinking water and public toilets. Pilgrims at the 2013 festival followed toilet and water sanitation practices common in South Asia, practicing defecation in both designated areas (contained squat toilets and private “flag” areas for open defecation) as well as public defecation in the sand or by the riverbanks. This case describes efforts by government officials during the 2013 festival to ensure and maintain adequate and appropriate sanitation facilities (toilets and the use of safe drinking water) and the long-term impact of the observed practices on the physical environment.

Case Context

This case was written in collaboration with Dr. Richard Cash as part of the Harvard University “Mapping the Kumbh Mela” project, and is based on the HSPH/FXB Center team research on toilets and sanitation at the 2013 Kumbh Mela. The case introduces students to the conditions and challenges of water and sanitation as it relates to cultural issues (social determinants of health) in global communities with limited resource for optimal health governance.

Learning Objectives

Overall Goal: The purpose of the “Toilets and Sanitation at the Kumbh Mela” case is to draw on the event of the 2013 Kumbh Mela religious bathing festival in Allahabad, India, in order to introduce students to the conditions and challenges of water and sanitation as it relates to cultural issues (social determinants of health) in global communities with limited resource for optimal health governance.

Intended audience for the case: Undergraduates and graduate students in related fields; possibly also advanced high school students interested in global health.

This teaching note was originally developed by the Harvard Global Health Institute by Susan R. Holman, MS, PhD, and Leila Shayegan (Harvard College, '14), in consultation with Richard Cash, MD, MPH. The author wishes to acknowledge the contributions of Dr. Cash and Rachel Gordon Nwankwo. It is used and distributed with permission by the Global Health Education and Learning Incubator at Harvard University. Cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

Teaching Objectives (General):

After completing this unit, students will be able to:

1. Identify health risks related to human waste-affected water in general;
2. Discuss the relevance of religion and culture in shaping solutions to health-related risks.
3. Identify at least four different types of toilet facilities at the Kumbh Mela and the health-related implications of their use, in terms of:
 - a. water safety (ecosystem)
 - b. use in situations of mass gatherings
 - c. cultural beliefs about human defecation (cultural sensitivities)

Teaching Objectives (Specific):

Knowledge-based objectives:

1. Will understand factors that contribute to health from water and poor sanitation
2. Will be able to identify specific preventive public health measures for populations in temporary housing and camps such as those at mass gatherings, religious festivals, and refugee camps

Skill-based objectives:

1. objectives:
2. Will develop skills to identify health risks related to water and poor sanitation
3. Will be able to think critically about the role of cultural views of purity and cleanliness as they may affect practices related to waterborne disease risks

Attitude-based objectives:

1. Will recognize the preventable nature of water related diseases that are due to inadequate toilet sanitation
2. Will be able to identify cultural factors that influence bathing and toileting activities at large-scale religious events.

Suggested Discussion Questions

A. Scenarios

Scenario One (for Group Discussion):

You have heard that 60% of the world's open defecation occurs in India and are inspired to do something about it. You decide to live in a village in Uttar Pradesh for a month to gain a better understanding of the situation. How do you go about obtaining information about the state of sanitation in this village? What do you need to know before you go?

Scenario Two (for Group Discussion):

You have installed toilets of both the squat toilets and commode type by a pilgrim settlement at the Kumbh Mela, but nobody seems to be using them. You have managed to call a meeting with several of the prominent religious men and ten pilgrims whom the religious men have said they know do not use the toilets. You are sitting with all the sadhus now to discuss the situation. What do you say to them? To the pilgrims? What will you do about the toilets?

Scenario Three (for Group Debate):

(Each section will review points from the case and plan to argue the positions summarized below).

Position 1: The Kumbh Mela festival presents many health risks due to insufficient toilet facilities. Identify the specific health risks and circumstances that might create an epidemic. If you were an official at the Kumbh Mela, what specific recommendations would you make for the next festival?

Position 2: The Kumbh Mela festival offers an example of culturally sensitive sanitation and toilet options for visiting pilgrims. What other settings would especially benefit from the examples at the Kumbh and how would you suggest they be put into place? What policy issues might be important to consider?

Scenario Four (for Discussion Based on the Case Interviews):

(Class members could take the role of the three officials interviewed in the last half of the case and present their positions to the class)

B. Case-stylized questions

a. Information-seeking questions

- What health risks relate to toilet and sanitation practices in the context of mass gatherings?
- What kinds of toilets were available at the Kumbh Mela?
- What measures are established to mitigate water-related risks at the Kumbh Mela?
- How do people clean their hands following defecation?

b. Analytical questions

- What is the approximate user-per-toilet ratio at the Kumbh, based on the numbers of toilets reported in the case and the official government website, compared with the reported population of pilgrims expected during the festival. Calculate estimates for high and light use times. Based on your calculations, do you think there are enough toilets at the festival? Why or why not?
- What challenges does this case suggest about the public health perspective of managing a large short-term religious event effectively, compared to a non-religious crowd event (ie sporting events, music festivals)?

c. Challenge questions

- What are the environmental after-effects of 30 million pilgrims engaged in sanitation practices (bathing and toilet use) on a flood plain of rivers that flow through hundreds of small villages and towns beyond Allahabad?
- What implications might this event have for global policies as they affect control of infectious diseases?
- How do the concerns of women pilgrims differ from those of men at the festival in their needs related to safe and sanitary toilet facilities and clean water?

d. Action questions

- How might toilet facilities have been improved at the festival? What resources are needed to make the improvements you suggest?

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e. Hypothetical questions

- If there had been a cholera outbreak at the 2013 Kumbh Mela, how do you think it would have happened? How would it be identified? How effective do you think the available resources and precautions were for addressing such an outbreak quickly and effectively?
- Is the Kumbh Mela a model example for other settings, or one that is highly problematic?

f. Predictive questions

- In 2013, Bill Gates announced the winners of his “Reinvent the Toilet” Challenge, intended to “develop “next-generation” toilets that will deliver safe and sustainable sanitation to the 2.5 billion people worldwide who don’t have it.” How do you think the development of these new toilet technologies in response to this global challenge will affect sanitation facilities in South Asia in general? At the next Kumbh Mela festival in 2025?

Links to Additional Online Resources

Harvard University Mapping the Kumbh Mela and related online resource links:

Homepage & links (co-sponsored by the South Asia Institute and the Harvard Global Health Institute)

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

Short film about the “Mapping the Kumbh Mela” project (6 minutes):

<http://southasiainstitute.harvard.edu/kumbh-mela/post/mapping-the-kumbh-mela-movie> or use the direct

YouTube link: <http://www.youtube.com/watch?v=wSDBGaUtkUU>

Blog (entries January through March 2013 only)

<http://mappingthemela.wordpress.com>

Blogpost, “On Pilgrims and Refugees: A Comparative Reflection”

<https://mappingthemela.wordpress.com/2013/01/23/on-pilgrims-and-refugees-a-comparative-reflection-susan-holman-senior-writer-harvard-global-health-institute>

FXB Blog on “Public Health at the Kumbh Mela” (entries January through February 2013 only)

<http://fxbkumbh.wordpress.com>

FXB Team report (HSPH, March 28, 2013 (2 hours)

http://webapps.sph.harvard.edu/accordentG1/kumbhmela_20130328/index.htm

Official Government of India Kumbh Mela Website:

<http://kumbhmelaallahabad.gov.in/english>

Harvard “Mapping the Kumbh Mela” Project: Select team publications about the Kumbh Mela:

P. Gregg Greenough. The Kumbh Mela stampede: Disaster preparedness must bridge jurisdictions. *BMJ* 2013; 346: f3254. <http://www.bmj.com/content/346/bmj.f3254>.

Holman S. Chapter 2: Pilgrimage: From Glocality to Global Health. *Beholden: Religion, Global Health, and Human Rights*. Oxford University Press 2015. Pages 25-43.

Khanna T, Macomber J. Kumbh Mela, January 2013: Mapping the Ephemeral Mega City.

https://www.hatjecantz.de/kumbh-mela-january-2013-6458-1.html?article_id=6458&clang=1.

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Vortmann M et al. Water, Sanitation, and Hygiene at the World's Largest Mass Gathering. Current Infectious Disease Reports 2015. DOI: <https://doi.org/10.1007/s11908-015-0461-1>.