

The Kumbh Mela Annotated Bibliography of Selected Resources

DRAFT 11/1/12

This bibliography has been developed as part of the Harvard University collaborative research project, “Con-temporary urbanism: Mapping India’s Kumbh Mela,” and South Asian Studies 150, a Fall 2012 Workshop on the Kumbh Mela. Participating faculty include Diana Eck (Harvard Divinity School), Rahul Mehrotra (Harvard Graduate School of Design), Tarun Khanna (Harvard Business School, Cherry Murry (Harvard School of Engineering and Applied Sciences), Jennifer Leaning (Harvard School of Public Health) and Sue J. Goldie (Harvard Global Health Institute).

Resources in these lists are limited to those that explicitly mention or feature the Kumbh Mela festival. The bibliography is divided into six sections: (1) Resources that provide a general background and description of the festival; (2) resources that focus on or explain religious, social, and cultural issues; (3) the festival as spectacle and media; (4) health and environmental issues; (5) the Ganges river and its waterways as a focus of religion, health, and environmental concerns; and (6) urban planning or design resources that directly consider the Kumbh Mela.

1. Kumbh Mela – General Background and Descriptions

Bonazzoli, G., “Prayaga and its Kumbha Mela,” *Purana* 1977; 19: 81-159. A detailed description of the religious roots of the Kumbh Mela Festival, including primary source citations in Hindi (with English translation) and charts.

Dubey, D.P., “Kumbha Mela: Origin and historicity of India’s greatest pilgrimage fair,” *National Geographic Journal of India* 1987; 33: 469-492.

Dubey, D.P., “Maghamela at Prayaga,” *Purana* 30; 1988: 60-68.

Dubey, D.P. Prayaga: *The Site of Kumbha Mela*, New Delhi: Aryan Books International, 2001. An outline of the cultural history of the city of Prayaga (today known as Allahabad), drawing on Vedic, Buddhist, Jain, and foreign sources as well as archaeological evidence to consider implications for the development of the Kumbh Mela festival and its influence.

Eck, D.L., *India: A Sacred Geography*, NY: Harmony Books, 2012, see esp. pp. 152-158 for discussion of “the great festivals.” Telling the story of the pilgrim’s India, this book seeks to fully understand the sacred places of pilgrimage from the ground up, with their stories, connections and layers of meaning. Diana Eck examines Hindu religious ideas and narratives, shows how they have been inscribed in the land itself, and how, from these networks of pilgrimage places, India’s very sense of region and nation has emerged, as a land linked for centuries not by the power of kings and governments, but by the footsteps of pilgrims.

Kumbh Mela Festival 2001: Web page home <http://www.kmp2001.com/index.html>

Lochtefeld, J. J., "The Construction of the Kumbha Mela," *South Asian Popular Culture* 2/2; 2004: 103-126. A discussion of how the historical roots of the KM have been shaped by changing social, economic, and political conditions as well as textual, mythical and historical construction.

Maclean, K., "Conflicting spaces: The Kumbh Mela and the fort of Allahabad." *South Asia Journal of South Asian Studies* 24/2; 2001: 135-159. Historian Kama Maclean looks at how the administration of religious festivals, or melas under British colonial rule was fraught with ambivalence, with large melas potentially dangerous, gatherings of devout Hindus, holy men and officiating brahmans, that needed to be closely controlled. Governmental intervention in melas in the nineteenth century is a story of experimental give and take, of fluctuating benevolence and oppression.

MacLean, K., "Making the Colonial State work for you: The modern beginnings of the Ancient Kumbh Mela in Allahabad," *The Journal of Asian Studies*, 62/3; 2003: 873-905.

Maclean, K., *Pilgrimage and Power: The Kumbh Mela in Allahabad, 1765-1954*, NY: Oxford University Press, 2008. A scholarly history of the festival with a focus on the role of religion and politics in the power dynamics and tensions of this festival.

McMullen R., "Understanding Hinduism: The Kumbh Mela," *Bulletin of the Christian Institute of Religious Studies*, 28/1; 1999: 24-32.

Mehta, Ved, "The Ageless Festival," in idem, *Portrait of India*, NY: Farrar, Straus & Giroux, 1970. See pp. 77-92 for an overview of the history of the Kumbh Mela.

Mishra, J.S., *Mahakumbh: The Greatest Show on Earth*, New Delhi: Har Anand Publications 2007. 120-page guide describing the various managerial dimensions and highlights the intricate nuances that ensured the fool proof arrangements to cater to the basic needs as well as spiritual aspirations. The author is a civil engineer who was the nodal officer for the successful conduct of Mahakumbh 2001.

Pradhan, S., "Sangam attracts young and old," January 10, 2001; link: <http://www.rediff.com/news/2001/jan/10kumbh.htm>. News article about the 2001 festival.

Roy, D.K. and Devi, I., *Kumbha: India's Ageless festival*, Mumbai: Bharatiya Vidya Bhavan, 2009.

2. Kumbh Mela – Religious/Social/Cultural

Bhardwaj, S.M., *Hindu places of pilgrimage in India: A study in cultural geography*, Berkeley: University of California Press, 1973. A detailed study of Hindu pilgrimage sites; includes discussion and maps of Kumbh festivals.

Chauhan, A., "The Descent of Gods: Creating Cultural History in the Kumbh Mela," *The International Journal of Religion and Spirituality in Society* 1(3); 2011: 37-46. From the abstract: The Kumbh Mela is a legendary Hindu fair which occurs after every twelve years at four different places in Haridwar, Prayag, Nasik and Ujjain in India, according to predetermined astrological constellations. It is the largest gathering in the world for a religious cause, marked by mass ritual bathing and several other religious ceremonies. During the 2010 Kumbh Mela at Haridwar, the hill gods of Kumaon and Garhwal region in Uttarakhand state of India, who are known as local deities and are usually worshipped by people of a specified geographical

region, gave their consent (through their spokesmen) to come down to the city of Haridwar for a holy dip in the Ganga. Such a mass movement of deities in the form of a procession for ceremonial bathing had never occurred in the history of the Kumbh Mela. The paper discusses this event and analyzes its significance in light of Indian anthropological theories of 'Universalisation' of the lesser known deities and as an attempt to connect these deities (of 'Little tradition') to the 'Great tradition' of the Hindus. The entire study was conducted through fieldwork at the 2010 Kumbh Mela in Haridwar.

Chhacchi, S., "The Householder, the Ascetic and the Politician: Women Sadhus at the Kumbh Mela," *India International Centre Quarterly* 29(3/4); 2009: 224-234.

Eck, D., "India's Tirthas: Crossings in Sacred Geography," *History of Religions* 20/4; 1981: 323-344.

Hebner, J., *Kumbha Mela: The World's Largest Act of Faith*, Mandala Publishing Group, Calif, 1991.

Husain, I., "Hindu shrines and practices as described by a central Asian traveller in the first half of the 17th century," in: Irfan Habib, ed., *Medieval India 1: Essays in the history of India 1200-1750*, Delhi, Oxford University Press, 1992, pp. 141-153.

Lochtefeld, J.G., "'Getting in Line': The Kumbha Mela festival processions," in: Knut A. Jacobsen, ed., *South Asian Religions on Display: Religious procession in South Asia and in the diaspora*, NY: Routledge, 2008, chapter 2, pp. 29-44.

Maheshwari S. and Singh P., "Psychological well-being and pilgrimage: Religiosity, happiness and life satisfaction of Ardh-Kumbh Mela pilgrims (Kalpvasis) at Prayag, India," *Asian Journal of Social Psychology* 12(4); 2009: 285-292. From the abstract: Pilgrimage is an important aspect of our life and has both religious as well as spiritual significance. The present study examined the relationship of religiosity, happiness, and satisfaction with life in the case of pilgrims in the cultural context of the Ardh-Kumbh Mela (held in Prayag, Allahabad, India) during January and February, 2007. The study specifically examined these relationships in a sample of Kalpvasis (pilgrims who stay at the banks of the Sangam for a month in the holy city of Prayag during the Mela period). One hundred and fifty-four Kalpvasis participated in the study. Results showed positive association between religiosity, happiness, and life satisfaction. Gender did not have a significant role on these relations in the case of pilgrims. Implications of these results are discussed.

Narain, B. and Narain, K., *Kumbh Mela and the Sadhus: The Quest for Immortality*, Varanasi: Pilgrims Pub., 2010. The purpose of the Kumbh is to gain salvation, getting rid of one's burden of accumulated sins, and the crowd of Hindu monks and their Royal procession, the Shahi or Syahi, forms the main attraction at Kumbh, where naked ascetics, the Nagas, recognized for their quick anger and aggressive nature, move out of their Akhara enclosures. It can be said that without the Sadhus, there can be no Kumbh. The different Akharas, Sadhus and Sanyasis particularly the Nagas, appear to have gained importance after an incidence at Kumbh Prayag in 1954.

Navlakha, G., "[A Show of Hindu Power](#)," *Economic and Political Weekly* 24/13 (April 1, 1989), p. 658. Opinion article discussing the religious conference organised by the Vishwa Hindu Parishad at the Kumbh Mela, which has demanded the destruction of the 15th century Babri Masjid and the construction of a Rama temple on its site. The author considers the implications of this and other demands raised at the conference in terms of claims to the 'Hindu Nation' concept.

Raza G., Singh S., Dutt, B., "People's attitude to scientific knowledge: The context of culture," *Journal of Scientific & Industrial Research* 54(2); 1995: 108-121. Reports on two surveys on peoples' understanding of science: one conducted at Allahabad at the time of Kumbh Mela in 1989, and another administered at Mangolpuri, a resettlement colony of Delhi. The present paper, in addition to discussing details of the characteristics of the sampled population in respect of education, gender, occupation, and peoples' cultural interest, also attempts to locate respondents' attitude to scientific knowledge within the system of cultural practices and occupation of the population sampled during the surveys.

Raza, G. and Singh, S., "Cultural distance between people's worldview and scientific knowledge in the area of public health," *Journal of Science Communication* 3 (4); 2004; 1-5. From the abstract: A research study attempting to measure the public understanding of science in the area of health and hygiene and test the efficacy of "cultural distance model". A pre-tested open-ended questionnaire was used for administering cross-sectional surveys at a religio-cultural festival in India. 3484 individuals were interviewed and responses were coded and entered to construct computer database. The data was used for determining the cultural distance of five scientific concepts from the quotidian life of the target population.

3. Kumbh Mela – Publications on the Kumbh as a media/spectacle

A. PRINT PUBLICATIONS:

Doron, A. "Encountering the 'other': pilgrims, tourists and boatmen in the city of Varanasi (Banaras)," *The Australian Journal of Anthropology* 16(2); 2005: 157-178. Examines the boatmen of Varanasi and their role as culture brokers, negotiating the sacred city for visitors who include pilgrims, domestic and foreign tourists. Concentrating mostly on the relationship between the boatmen and foreign tourists, the article looks at the multiple strategies and tactics that boatmen have developed to satisfy their needs and desires to their own advantage. Boatmen are quick to 'tune in' to those with whom they are dealing, and their close encounters with tourists enable them to view Western culture as well as their own local culture critically.

Gautier, F., Spot the Monkey at the Kumbh. *Indian Express*, Jan. 29, 2001; news; link: <http://www.indianexpress.com/Storyold/169663> (newspaper opinion piece).

How the media covered the mela; *Hinduism Today*, May/June 2001; news article; link: <http://www.hinduismtoday.com/modules/smartsection/item.php?itemid=4040>.

King, A.S., "Kumbh Mela and the Media", in Anna S. King, ed., *Indian Religions: Renaissance and Renewal*, The Spalding Papers in Indic Studies, London: Equinox, 2006, pp. 312-341. From a [book review](#): King cautions against assuming that all (or even all western) media representations of the Kumbha Mela are "orientalist," showing how significantly media coverage of the *mela* varies. She also describes the complicated and mutually instrumental relationship that Kumbha Mela organizers and participants have with representatives of the media.

Maclean, K., "Seeing, being seen, and not being seen," *Cross Currents* 59/3; 2009: 319-341. Discussion of the role of the visual experience in the Kumbh Mela festival.

"Mela and Media: Norms in Absence," *Economic and Political Weekly*, 36/4 (Jan 27-Feb 2); 2001: 252-253. A short opinion piece.

B. FILM AND PHOTOGRAPHY:

FULL-LENGTH FILMS:

Gupta, S., *Allahabad's Mela: The people and their great fair*. 1 videodisk, 41 min, 2009.

Short Cut to Nirvana. An award-winning documentary about the Kumbh Mela festival. 2005 (85 minutes). More information at <http://www.melafilms.com>.

Uddin, N., *Kumbh Mela: Songs of the River*. Documentary film produced by the Kumbha Mela Project 2001 and Samsara Films. 2004 (60 minutes). More information at http://www.kmp2001.com/kumbh_mela_dvd_documentary.html.

MEDIA CLIPS:

Kumbh Mela -Part 1 of 2

<http://www.youtube.com/watch?v=ytRRzdJ13lM&feature=related>

Video coverage of 2001 Kumbh Mela. Images and music.

Kumbh Mela -Part 2 of 2

<http://www.youtube.com/watch?v=ytRRzdJ13lM&feature=related>

This second part, to the tune of contemporary music, features the sadhus, the processions, the bathing of the nagas, and more scenes of bathing and mela life. No narration.

Kumbha Mela 2001

<http://vimeo.com/23526380>

This 8 minute video by Theo Shaw has great images, but again has simply a music sound track. Seems to be a compilation of the previous two, Parts I and 2.

Mahakumbha Mela 2001, Part 1

<http://www.youtube.com/watch?v=XMVBaUpvpwA>

This eight minute video features Swami Chidananda Saraswati (of both the U.S. and India), shows images of service, providing meals, etc. Gives some brief narration of the meaning of the Kumbha Mela, especially at the end by Swami Veda Bharati Maharaj

Short Cut to Nirvana

http://www.youtube.com/watch?v=_eeZUJliReQ

This three-minute trailer to the award-winning film gives some of the "sights and sounds"

SAMPLE PHOTOGRAPHY

Michelangelo Antonioni, 2001 Kumbha Mela

<http://www.youtube.com/watch?v=9aoKTEC-xo8>

Arresting images of a great photographer

4. Health and Environment (for Ganges River, see next section)

Awagari A., Bhargava A., Agarwal R., Mishra S.K., Mishra A.K., Das S.R., Shah R., Singh S.K., Pandey A., "Use of Telemedicine in evading cholera outbreak in mahakumbh mela, Prayag, UP, India: An Encouraging Experience," *Telemedicine Journal and e-health* 2003; 9: 89-94. From the abstract: Telemedicine (TM) services a process in which expert medical advice from afar is provided using electronic signals to transfer the medical data from one site to another. As a pilot project to assess the efficacy of TM in developing

countries like India, a telemedicine center was set up at the main hospital of Mahakumbh mela--a grand religious fair, at Prayag, a city in north India. The daily reporting of the in-patient and outpatient cases at the fair revealed a surge of diarrhea cases among the pilgrims at the fair. This information was communicated to the referral center at Sanjay Gandhi Post Graduate Institute of Medical Sciences (SGPGIMS), which, with the help of its microbiology department, conducted microbiological examinations of stool samples and rectal swabs of patients along with various water samples. *Vibrio cholerae* was isolated in 22.6% (7/31) of the samples. This information was immediately relayed to the Main Hospital at the fair online, and then to the health authorities, who took strict and prompt measures to improve hygiene. Subsequently, the number of diarrhea cases decreased considerably in a matter of a few days, and thus an epidemic disaster was averted, which could have created havoc in such a large gathering.

Bagchi S.C. and Banerjee S.C., "The Kumbh Fair (1966): Aspects of Environmental sanitation and other related measures," *Indian Journal of Public Health* 11/4; 1967: 180-184. Considers cholera prevention and control in addition to other environmental health issues.

Banks A.L., "Religious Fairs and Festivals in India," *The Lancet* 7169; (Jan. 21, 1961): 162-163. A British physician reflects on his four days at the 1960 Kumbh Mela in Allahabad.

Bryceson A.D.M., "Cholera, the Flickering Flame," *Proceedings of the Royal Society of Medicine* 70; 1977: 363-365. Historical overview of cholera outbreaks associated with religious festivals in India since 1867.

Duka T., "An Address on Tropical Medicine Delivered at the Eighth International Congress of Hygiene and Demography, Budapest, 1894," *The Lancet*, Sept. 8, 1894, pp. 561-564. Interesting example of historical "colonialist" views of infection and disease in India, with some reference to the Kumbh.

Fruin J.J., "The causes and prevention of crowd disasters," in: R. A. Smith and J. F. Dickie, eds, *Engineering for Crowd Safety*, Amsterdam: Elsevier Science Publishers, 1993, pp. 99-108. From the summary: While crowds occur usually without serious problems, occasionally venue inadequacies and deficient crowd management result in injuries and fatalities. The chapter describes major crowd incidents, considering how extreme crowding results in individual loss of control, and both psychological and physiological problems. A simple model with the acronym "FIST" is proposed to provide a basic understanding of crowd disasters. The acronym elements are defined as the crowd Force (F); the Information (I) upon which the crowd acts; the physical Space (S) involved, both in terms of individual density and larger scale architectural features; and Time (T), the duration of the incident. The model is used to illustrate crowd characteristics and to develop guidelines for the prevention of crowd disasters. It is concluded that real time information and communication are key factors in preventing crowd disasters. The formal certification of crowd manager for venues of 500 persons or more is recommended.

Herbert H., "The natural history of Hardwar Fair cholera outbreaks." *The Lancet* July 27, 1895, pp. 201-202. Considers the incidence of cholera at Kumbh festivals with a focus on the factors that may have contributed to the "big cholera year" of 1892.

India Central Pollution Control Board: *Environmental study during Kumbh—2001 at Prayag (Allahabad)*, 2003. Mass bathing causes deterioration of water quality at various stretches of rivers. CPCB conducted intensive monitoring of mass bathing on several auspicious occasions, when hundreds of thousands of people gathered for religious bathing, and the resulting environmental effects of Kumbh-2001 at Prayag (Allahabad). The goal of the study was to aid environmental management plan during future Kumbh festivals.

Kaushik S., Joshi, B.D., "[Solid waste management at Mansa Devi and Chandi Devi temples in the Shiwalik foothills during Kumbh Mela 2010](http://www.eco-web.com/edi/110408.html)," *Report & Opinion* 4/8; 2012: 39-42; Online (April 2011) at <http://www.eco-web.com/edi/110408.html>. The study measured solid waste generation over the Mansa Devi and Chandi Devi hillock at Haridwar during the Kumbh festival of 2010. Total amount of solid waste generated for seven days of collection was 7615.0 Kg and 4992.7 Kg at Mansa Devi and Chandi Devi temples, respectively. The composition of solid waste was about 64.7% biodegradable waste and 12.3% non-biodegradable and 23.0% miscellaneous waste at Mansa Devi hillock. Chandi Devi hillock had 62.1% biodegradable, 12.3% non-biodegradable and 25.6% miscellaneous wastes, while during normal non-festive days 62.7% biodegradable, 10.2% non-biodegradable, 27.1% miscellaneous solid waste was found at Mansa Devi and 62.2% biodegradable, 13.4% non-biodegradable and 24.4% miscellaneous was found at Chandi Devi hillock.

Sanitary Reform in India: IV. Sanitary Reports. *The Lancet*, March 21, 1908: 883-884. Birth, death, and disease statistics, with a discussion of a cholera epidemic associated with the 1906 Kumbh Mela at Allahabad.

Sharma, V., "Health for all through affordability and profitability with public spiritual partnership." Paper for the Asian Development Bank Institute, 2010. Some discussion of the Kumbh Mela. Full text online at <http://www.adbi.org/files/2010.12.11.cpp.sess2.5.sharma.paper.health.affordability.pdf>. This paper reports on three studies conducted sequentially to gain an insight of ways to provide 'Health for All.' The findings of the first study were suggestive of the rural poor's desire for better health care services, willingness for health-insurance coverage, and willingness to pay; the outcome was an alternative prospective model for the provision and disbursement of 'Health Care' to the Rural and the Poor population on the premise of 'Affordability for the Poor & Profitability for the Provider'. The question of implementation remains. The authors suggest a solution in the form of 'Public Spiritual Partnership'.

Sharma, V., "Motivation absorbs magnitude: An analysis of health care services of Kumbh Mela," *Chinese Public Administration Review* (CPAR), vol. 6, number 1/2; 2009: 1-8, published by Rutgers University. From the abstract: This paper highlights the levels of commitment, purposefulness, transparency, efficiency, effective administration and good governance in the delivery of Health Care Services observed and experienced at the largest ever gathering of humans (30 million people on 24th January 2001 on the occasion of Mauni Amavasya) at one single place of a 3000 acre temporary township [the 2001] Kumbh Mela, wherein 70 million people congregated over a period of few weeks and Allahabad turned into the most densely populated city in the world. The paper tries to analyse the factors behind the successful administration and management of the Health Care Services provided during this period. Though the author himself closely observed the situation by staying on site, questions about magnitude affects motivation.

Vij, M., "[RS and GIS Based Risk Assessment, Preparedness and Prevention of Crowd disasters: A case study of religious pilgrimage in India](http://cipa.icomos.org/fileadmin/template/doc/KYOTO/26.pdf)," Paper delivered at CIPA 2009 XXII International Symposium on Digital Documentation, Interpretation & Presentation of Cultural Heritage, October 11-15, 2009, Kyoto, Japan. Available online at <http://cipa.icomos.org/fileadmin/template/doc/KYOTO/26.pdf>.

5. Ganges and the Kumbh: Religion, health, environment

Central Pollution Control Board, Environmental Study During Kumbha Mela 2001 at Prayag (Allahabad), *Assessment and Development Study of River Basin*; Series: ADSORBS. Delhi: Ministry of Environment and Forests, Government of India, 2003. A Government of India study on the water quality of the Ganga before and during the major days of the Kumbh in 2001.

[Clean Ganga Portal](http://www.cleangangaportal.org); online at <http://www.cleangangaportal.org>.

Clean Ganga Portal is an initiative to integrate stakeholders to collectively contribute in keeping Ganga clean. through active public participation to support the efforts being done at state, national and international levels. This site is a platform for opinions and shared knowledge.

Darian, S.G., *The Ganges in myth and history*, Honolulu, HI: University Press of Hawaii, 1978, reprinted in 2010 by Motilal Banarsidass.

[Ganga Action](http://www.gangaaction.com): “Clean Ganga, Green Ganga, Serve Ganga.” The work of Swami Chidananda Sarasvati, of both US and India; online at <http://www.gangaaction.com>. Professionals, engineers, scientists, activists, spiritual leaders, environmental specialists and dedicated *sevaks* (volunteers) from all across the world dedicated to restoring, protecting, and maintaining the river Ganga and Her tributaries in their *aviral* (free-flowing) and *nirmal* (unpolluted) state and to find workable solutions to the problems of pollution and obstruction.

[Green Yatra Action Network](http://www.gyanworldwide.org/): an NGO advocating “green pilgrimage” to the Mela. Online at <http://www.gyanworldwide.org/>.

Haberman, D.L., *River of Love in an age of Pollution: The Yamuna River of Northern India*, Berkeley: University of California Press, 2006. Haberman traces the Yamuna river through the heartland of India, drawing particular attention to the region of Braj, where the Yamuna river is especially revered and currently the object of active efforts for protection. The book combines the positive aspects of religious beliefs with a study of Hindu religious practices along India’s Yamuna river, in a book that combines religious environmentalism, poetic contemplation, scientific measurement, and environmental activism.

Hollick, J. Crandall, *Ganga: A journey down the Ganges River*. Washington and London: Island Press, 2008. A journalist’s journey through northern India along the Ganga from the river’s source high in the Himalayas down to where the river finally meets the sea. The book details his encounters along the way with priests and pilgrims, dacoits and dolphins, the fishermen who subsist on the river, and the villagers whose lives have been destroyed by her. He finds that popular devotion to Ganga is stronger and blinder than ever, and it is putting her—and her people—in great risk. See especially chapter 3, “The Rape of the Ganga” (pp. 69-98) and chapter 5, “The Mysterious Factor X” (pp. 131-149).

Khandelwal, A., “Environmental Economics: Implications of Cultural and Religious Practices on Ganga River,” Electronics and Communication Engineering, B Tech III Year, Powerpoint slide presentation. Available online at <http://www.slideshare.net/gobarganesh/implication-of-cultural-and-religious-practices-on-ganga>.

Morrison, D., “India stems tide of pollution into Ganges River,” *National Geographic Daily News*, November 23, 2011; part of a special National Geographic News series on global water issues. Online at <http://news.nationalgeographic.com/news/2011/11/111123-india-ganges-river-pollution/>.

Morrison, D., “A River Runs Through It,” *International Herald Tribune*, May 21, 2012; [global opinion feature]. Online at <http://latitude.blogs.nytimes.com/2012/05/21/ganges-cleanup-will-cost-tens-of-billions-of-dollars-but-is-a-great-idea/>.

National River Conservation Directorate and Ministry of Environment of Forests, Government of India. *Status Paper on Ganga Water Quality*. Published August 2009 by the Alternate Hydro Energy Centre/Indian Institute of Technology, Roorkee.

Sankat Mochan Foundation: Dedicated to addressing degradation of the Ganga. The Sankat Mochan Foundation is a non-profit, non-political, secular, non-governmental organization, founded in 1982 at Varanasi, working to alleviate the environmental degradation of the River Ganga. More information available at <http://sankatmochan.tripod.com/>. See also Swatcha Ganga Campaign at <http://www.friendsofganges.org/>.

Sharma V., Bhadula S., Joshi B.D., Impact of mass bathing on water quality of Ganga River during Maha Kumbh-2010, *Nature and Science* 10(6) (2012): 1-8. Fulltext available online at http://www.sciencepub.net/nature/ns1006/001_8615ns1006_1_5.pdf. Report of a study carried out to assess the impact of mass bathing on water quality of Ganga River during Maha Kumbh-2010. Ganga water samples were collected from three selected bathing Ghats / Platforms of river Ganga and analyzed for some physico-chemical parameters. There was a direct relationship between high parameters and water disturbance.

Stille, A., "The Ganges' next life," *The New Yorker*, January 19, 1998. Full text online at <http://archives.newyorker.com/?i=1998-01-19#folio=058>. A reporter-at-large writes about the sacred Ganges river in India, with a focus on the problem of its pollution with sewage, human remains, and industrial waste. Even though it is the dream of all good Hindus to bathe in the Ganges at least once in their lives, in some places at Varanasi, the fecal-coliform count has been known to reach a hundred and seventy million bacteria per hundred millilitres of water—three hundred and forty thousand times the acceptable level of five hundred per hundred millilitres. Some five hundred million people now live in the basin of the Ganges and its tributaries. A hundred and fourteen cities dump their raw sewage directly into the river. Waterborne illnesses like amebic dysentery, typhoid, and cholera are common killers, especially among children. Veer Bhadra Mishra, a spiritual leader and civil engineer, is trying to clean up the river. In 1982, Mishra founded, with two other engineers from Banaras Hindu University, where he is a professor of hydraulic engineering, the Sankat Mochan Foundation, a private secular organization dedicated to cleaning the Ganges. The foundation has teamed with an American, William Oswald, an expert on algae who pioneered a system in which sewage is treated in a carefully engineered series of natural algae ponds. Oswald and Mishra's Sankat Mochan Foundation are conducting a feasibility study for a waste-pond system at Varanasi. About forty thousand traditional funerals are performed on the banks of the Ganges annually, but the biggest source of pollution are the large sewage pipes that drain directly into the river. The Indian government spent about a hundred and fifty million dollars building Western-style high-technology wastewater plants along the Ganges, but they are ill-suited to India, which is beset by power outages and monsoons. The foundation has won the support of both the central and municipal governments; the final obstacle to building the ponds remains the state government of Uttar Pradesh.

6. Kumbh Mela – Urban Planning directly related to the festival

Mehrotra, R., "Kumbh Mela" (Research description), Harvard University Graduate School of Design, 2012 – A brief summary of an inter-faculty project on the Kumbh Mela at Harvard University during the 2012-2013 academic year, with a focus on implications for urban planning and design. LINK: <http://www.gsd.harvard.edu/#/projects/kumbh-mela.html>

North Eastern Railway, "Monitoring Committees for Kumbh Mela 2013." Coded numbers and abbreviations in charts listing committees related to: sanitation and cleanliness, watering, passenger amenities, security and crowd management, and catering.

<http://www.ner.indianrailways.gov.in/uploads/files/1349434602519-Kumbh%20Mela%20Monitoring%20Committees%20with%20Contact%20No%2005.10.12.pdf>

Project Management Institute (PMI), “Perfect Mix of Planning, Teamwork, and Commitment,” *Manage India*, March 2011, vol. 3, issue 1. A reflection on the 2010 Kumbh Mela in Haridwar from the perspective of events management and organizational experts. Online at <http://pmi.org.in/manageindia/volume3/issue01/manage.india.pdf>.

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