

# Chapter 18

## The Water Cult and Conservation in India



Deepak Singh and Hari Charan Behera

**Abstract** Water has been one of the fundamental conditions for the growth of life on the planet earth. Growth of human civilization went hand in hand negotiating and forming the water cultures in sync with religious orders across the globe. The Indian sub-continent has also seen the growth of different cultures and way of life across the banks of rivers and water bodies. These were embedded in socio-religions and cultural system. All this had unbroken tradition till the arrival of modern technologies and water harvesting systems. The uncontrolled expansion of technology-intensive planning bereft the cities and villages of traditional water systems, which were the result of centuries-old human-nature negotiations. Slowly, on the name of economic expansion, both rural and urban areas have started overpowering the water culture's body-soul relationship, i.e., separating culture from the water.

**Keywords** Cultural value · Water · Sacred water · Water conservation · Indigenous knowledge

### 18.1 Introduction

With notions of purification and socio-religious sanctity attached, the traditional societies revered water as a living entity (Erbil & Mouton, 2012; Hã, 2007; Lawrence, 2006). The Hittite texts attest to the idea of a water-centric sacred cult bestowed to the rivers and the spring goddesses (Erbil & Mouton, 2012). The traditional Indian societies also rhyme the similar ritualistic node which connects its water systems with civilizational ethos (Bhargava, 1987). The sacred values attached to the Indian river systems such as the Indus (earlier Sindhu), the Ganges,

---

D. Singh (✉)

Research Institute for Humanity and Nature (RIHN), Kyoto, Japan

e-mail: [singh@chikyu.ac.jp](mailto:singh@chikyu.ac.jp)

H. C. Behera

Sociological Research Unit (SRU), Indian Statistical Institute (ISI), Giridih, Jharkhand, India

the Brahmaputra, the Narmada, the Kaveri, the Godavari, and the Tapti are well known (Agoramoorthy, 2015; Warriar, 2014).

For revered hermits and saints like Buddha, Guru Nanak, Kabir to Adi Shankaracharya, the water bodies of India have been an apostle of syncretism (Lorenzen, 1987; Sharma, 2012). On its banks and pavements, numerous sages meditated, preached, and professed the message of universal togetherness. Many cultures and traditions like the “Ganga-Jamuna Tradition” (in doab of rivers Ganga and Yamuna) have flourished for centuries on these fertile plains (Safvi, 2014). Even the term *Hindu*, which symbolically ascertains the idea of multiculturalism than the monochromatic manifestation of religious identity, is derived from the river *Indus*, i.e., the cultures prevailing beyond the eastern banks of the river Sindhu (Safvi, 2014; Thieme, 1970).

Along with the saints and their enlightened thoughts, the socio-religious sanctions of the pilgrimage economy were also centered around the banks of major Indian rivers. The temple towns like Rishikesh, Haridwar, Prayagraj (formerly Allahabad), and Varanasi are the striking examples in this context, whereas the *Kumbha Mela* (Fair) is one such largest congregation held in a cycle of 4 years at four different towns located on the banks of ancient rivers, viz., Prayagraj (at the confluence of the Ganga, Yamuna, and Saraswati rivers), Ujjain (river Shipra), Haridwar (river Ganga), and Nasik (river Godavari) (Chauhan, 2011; Dwivedi et al., 2020). This establishes a major connection between masses, rituals, and the water systems in the Indian society (Cole & Kanit, 2010; Hughes, 2002; Moorthy, 2016; Sharma & Shruthi, 2017).

The inherited traditions of the holy dip in rivers, lakes, and ponds have further developed sacred cultural complex for Hindu, Muslim, and Sikh communities (Desai, 2016; Lowry, 1983; Sarkar et al., 2019). Several such alive cultural traditions highlight the centrality of water resources in religious discourses. For instance, in Odisha, the Chandan Yatra, a yearly religious procession, at the Narendra Tank around the Puri Jagannath temple is another striking example. Every year, this event is celebrated for 3 weeks in which the representative idols of Lords Jagannath and Balabhadra along with their sister Subhadra are taken in a procession from the Lion Gate of the Sri Jagannath Temple to the Narendra Tank (Rath, 2004). Thereafter, the deities are placed on two well-decorated boats for an evening cruise of the tank.

Water systems like tanks and ponds around the pilgrimage routes also have a conservatory message. The *Pushkar* is a place in the Ajmer district of Rajasthan known for its great cultural significance for the pilgrimages (Mishra, 1999). And the *Pushkar Snan* (the holy dip in the Pushkar lake) is another sacred practice. Bathing in *Lake Pushkar* marks a special significance especially during Makar Sankranti Festival (marking the first day of astrological transition of Sun into Capricorn’s influence). And within the same Ajmer district, the Chisti Dargah Sharif also has a huge pond in its complex used for *wazoo* (purification practice before entering the shrine). Similarly, in Sikhism, the ponds (Sarovar) in the Gurudwara complexes of Sri Harmandir Sahib/Golden Temple (Amritsar) and Gurudwara Hazur Sahib Sachkhand (Nanded) are indicative of close relationship with water cult. And in

several Indian churches, the priest sprinkles the holy water at the end of the mass, and the visitors touch the holy water.

In India, water bodies share a sacrosanct relationship with festivals too. For instance, the *Chhath Puja* is a popular week-long festival also associated with ritualistic baths and nature worship during the early winters (October–November) in the eastern parts of India (Bihar, Jharkhand, and Eastern Uttar Pradesh). The community members observe fast to seek the Sun God's divine intervention for healthy wellbeing, by largely offering proceeds of agrarian origin like fruits, flowers, and sweets made from grains and dairy products (Singh et al., 2016). Weeks before the festival, the members of society customarily perform a cleanliness drill of the water ponds and the river banks (Pahariya & Patil, 2020). During the festival, the whole area is lighted with earthen clay lamps and adorned with *rangolis* (decoration pattern with colors and flowers).

## 18.2 Culture Discourses of Water

Across the socio-cultural landscape in different geographies, the water bodies and religion have developed a metaphysical relationship. The concept of *Apām Napāt* (*The Water Child*) in the Indian Vedic texts corroborates to the value attached to religious narratives with water (Findly, 1979; Magoun, 1898). In Southwest Asia, the Jordan river is adored for the Baptization of Jesus Christ by John (Kala, 2017). Similarly, the Greek gods of water like Amphitrite and Poseidon attest the cross-cultural similarities (Shaw, 2005). For instance, Poseidon's son Percy Jackson has the power of hydrokinesis, and Achilles is indestructible as his mother Thetis dipped him in river Styx. This highlights the strong socio-religious roots in different civilizations where notions of science, conservation, and mysticism are cob-webbed together as *water culture* (Nelson, 1998).

Water and cultures are intertwined with each other like a cotton handcraft. As the design (cultural imprint) on the cloth has limitless possibilities, so are the water and its relationship with different customs and traditions. The religious practices associated with water among various cultures have imbibed the notions of conservation and sustainability as an intrinsic social value, thus limiting the options for its misuse (Cannadine & Price, 1987; Nair, 2004). This makes the water culture a complex entity with multiple functions associated with elements of purification and pollution (Sivaramakrishnan, 2001).

In Hinduism, the focus is on bodily emissions, inauspicious life-cycle events, and elements of obstacles for the creation and maintenance of sacred places (Nelson, 1998). Nelson has elucidated a wide range of human activities associated with a religious impurity (Nelson, 1998). Performing a ritual (*Puja*) without bathing is considered as a taboo among the Hindus as well as among other religious communities (Hudson, 1980). Physical purification is mandatory before entering into these sacred shrines. As previously mentioned, the water structures around the temples, Gurudwaras, and Sufi Dargahs are the living testimonies of such conventions (Desai,

2016; Lowry, 1983). The practice of reading sacred hymns during regular or ritualistic bathing is common among the Hindus living in the Indian sub-continent (Nair, 2004), where taking a deep bath in water or even a mere aspersion has a seminal cultural value (Chamberlain, 2019). Such ritualistic bathing is an act for purification of body, mind, and past sins (*Karma*) (Singh, 2004; Nautiyal, 2009).

The dialectics of pure-impure implodes the deeper socio-cultural constructs and taboos associated with the use of water and entry into religious places (Freed, 1970; Joshi, 2011). In ancient Indian society, a person of lower caste/social order was barred to access public dug well due to rigid practices of untouchability (Freed, 1970). Casteism crept into and continued even with the arrival of egalitarian faiths like Islam and Christianity in medieval times (Ahmad, 2007; Dirks, 2001; Fuller, 1976; Jadhav, 2005). And even in contemporary Indian society, many such archaic practices related to casteism limit the access to clean water for several communities (Beteille, 1992; Jadhav et al., 2016).

During the Vedic period (1500 BCE to 500 BCE), cultural approaches to water conservation (with limits to social hierarchy and ethnic groups) were consciously built with a concept of equity for all living entities. On the one hand, bathing in runoff water has functional dimensions of conservation without hampering the ecological cycle (Lipner, 1998; Sharma & Shruthi, 2017). And on the other hand, the traditional approach to water conservation through cultural sanctions augmented this further. For instance, the temples in the southern Indian state of Kerala have historically played an important role in harvesting surplus water in tanks; every village at least has one temple associated with some sacred groves and tank (Maya, 2003).

Several water harvesting practices associated with socio-religious communes are still prevalent across India with certain variations in design, construction, ownership, and social relationships (Ekhalak et al., 2012; Livingston, 2002). These structures symbolize fecundity, and water is used in temple rituals for regeneration and purification (Lipner, 1998). Apart from rituals and drinking and irrigation purposes, such systems also contribute to the village “community affairs,” where social relations are articulated, reproduced, and challenged. However, the symbolic “production of locality” to which water systems contribute is also shaped by local ecology (Mosse, 1997). These arrangements are not just the structures and techniques of water harvesting but the way of cultural life, which is slowly vanishing (Mishra, 1995, 2012).

### 18.3 Changing Ecosystem, Extinction, and Climate Change

Looking beyond the arguments of ignorance versus innovation, it is evident that the notions of sacredness attached to water and its conservation helped the cause for *sustainability* even before the term was invented. Humans before the age of industrialization understood the harmonious relationship between land, water, and ecosystem for thousands of years through natural and cultural adaptations (Kala, 2017;

Mishra, 1994, 1995, 2012). Although caste/class hierarchies added certain restrictions on the open usage at many places, still there are visible traditions demonstrating controlled scientific prowess keeping watershed development structures in concordance with the ecosystem (Mishra, 1994).

The coming of first revolution in agrarian domain established a harmonious relationship between farming practices, water systems, and the religious orders. The surplus proceeds from cultivable land changed the swidden practices toward more concentrated, stable, and profit orientation. Hence, the economic logic of life in traditional communities which was for sustainable survival within the limits of available resources started witnessing transition through ideas of material wealth and overexploitation of depletable resources like water (Danda, 1991; Jain, 2001).

Rural and agrarian societies were the first casualty of such a transition. The advent of modernity through mechanized approaches like canal colonies, large dams, and durable water harvesting systems like pump sets added a notion of technological determinism with the human-water relationship (Ali, 1979; D'Souza, 2008). The premise of *Malthusian Trap* is now answered with fertilizer, modern seeds, and perennial water harvesting structures (Kögel & Prskawetz, 2001). This weakened the traditional water cult and emboldened the modern human's onslaught over water bodies. Although such an approach bears fruits for a few years or decades, in the long run, things started burning out. For instance, the land of the five rivers "Punjab" which was known for its early farming cultures through Vedic texts is currently witnessing severe decline of water table and pollution/encroachment of water bodies (Agrawal et al., 2010; Chakraborty & Mukhopadhyay, 2014).

In the urban interface, modern cities (like Delhi, Varanasi, Lucknow, Hyderabad, Ludhiana, Amritsar, Ajmer, etc.) thrived and expanded on the river banks, trade, and pilgrimage routes with foundations of inherited conservatory culture and logistical negotiations. Subsequently, the urban centers became the engines of scientific knowledge and growth. The rising towns slowly consumed the peripheries and its inhabitants with promises for material prosperity at the price of disassociation from the cultures and traditions. Consequently, the sulking urban landscapes with skyscrapers, slums, and chimneys replaced the traditional watersheds, natural landscapes, and common property resources (Wagner, 2013). This restricts the natural runoff and the rainwater absorption capacity in the urban areas, making flash floods and waterlogging a new normal (Singh & Upmanyu, 2019).

The city of Lucknow presents a striking example. It had alone 964 ponds in 1952 which has reduced to 494 in 2006 (Verma, 2016). The magnificent Hussain Sagar and Osman Sagar lakes built for the water supply by the Nizams of Hyderabad during the Mughal period are now witnessing decay due to urbanization (Ramachandraiah & Prasad, 2004). A similar position is for most of the emerging megapolis like the Indian IT City/Silicon Valley Bengaluru, which was flooded recently due to poor drainage situation resulting from the encroachment of water bodies.

Water management was the first mark of civilization (Nair, 2004). However, it is now one of the first tragedies of urban agglomerated modernity (MacKenzie & Dickens, 2008). The cumulative anthropogenic pressures professed the materialistic

ideas for technologically controlling the water flow to feed the megapolis (McKenzie & Ray, 2009). The rising prosperity of middle- and high-income groups in the cities creates the demand for water-intensive lifestyles like bathing tubs, flush toilets, and water-related entertainment ventures (swimming pools and water parks) (Sainath, 2000). The private bore-well models and the water-tanker mafia have added more fuel to the fire (Ranganathan, 2014). Consequently, the municipalities of many modern cities have exploited the water resources both vertically (groundwater) and horizontally (lakes, ponds, rivers basins, etc.) to quench the thirsty cities. The industrial discharge in the water bodies adds more nails into the coffin. It results in a heavily stressed Indian water system, with more than half of the districts either water-deficient or polluted (Chakraborty & Mukhopadhyay, 2014).

## 18.4 Closing Thoughts

The rituals in *water culture* had a body-soul relationship. In contemporary Indian society, the rituals continue, but cultural centrality with ecological conservation is gradually decimating, leaving the body without the soul. Being the second-largest country on the planet, India needs to look back and re-establish the broken links for traditional knowledge of ecological conservation hidden in cultural-religious ethos. Chronic water deficiencies have been the major reasons behind the decline of many advanced civilizations; the sooner it is realized, the better it will be. The historical water bodies need immediate revival (desilting, recovery, and rejuvenation) along with the prevention of further encroachment. Modern technology and capital can bear better results if combined with traditional wisdom for water conservation. The inclusion of the grassroots stakeholders in both policymaking and implementation can be a good beginning (Sainath, 2019). In India, there have been several activists like Rajinder Singh, Medha Patkar, Anupam Mishra, and Prof. GD Agarwal who did pioneering job by dedicating their lives for fighting to restore the water culture. Such voices of wisdom need to be seriously heard and adopted in town and country planning by the policymakers.

## References

- Agoramoorthy, G. (2015). Sacred rivers: Their spiritual significance in Hindu religion. *Journal of Religion and Health*, 54(3), 1080–1090.
- Agrawal, A. B., Pandey, R. S., & Sharma, B. L. (2010). *Water Pollution with Special Reference to Pesticide Contamination in India*. <https://doi.org/10.4236/jwarp.2010.25050>
- Ahmad, I. (2007). Recognition and entitlement: Muslim castes eligible for inclusion in the category 'Scheduled castes.' *Contemporary Perspectives*, 1(2), 89–109.
- Ali, I. (1979). *The Punjab canal colonies, 1885-1940* [the Australian National University]. <https://openresearch-repository.anu.edu.au/handle/1885/112646>.

- Beteille, A. (1992). Caste and family: In representations of Indian society. *Anthropology Today*, 8(1), 13–18.
- Bhargava, D. S. (1987). Nature and the Ganga. *Environmental Conservation*, 14(4), 307–318.
- Cannadine, D., & Price, S. R. F. (Eds.). (1987). *Rituals of royalty: Power and ceremonial in traditional societies*. Cambridge University Press.
- Chakraborty, D., & Mukhopadhyay, K. (2014). *Water pollution and abatement policy in India* (Vol. 10). Springer. <http://link.springer.com/10.1007/978-94-017-8929-5>
- Chamberlain, G. L. (2019). Spirituality and water. *The Routledge International Handbook of Spirituality in Society and the Professions*, 76–83.
- Chauhan, A. (2011). The mystic Kumbh Mela from mythology to reality. *Voice of Intellectual Man-An International Journal*, 1(1), 79–90.
- Cole, O., & Kanit, V. P. H. (2010). *Hinduism—An introduction*. Hachette UK.
- Danda, A. K. (1991). Tribal economy in India. *Inter-India*. Publications.
- Desai, R. B. (2016). August 7. *Bidar gurdwara to do its bit to protect a legendary spring*. <https://www.thehindu.com/news/national/karnataka/Bidar-gurdwara-to-do-its-bit-to-protect-a-legendary-spring/article14556919.ece>
- Dirks, N. B. (2001). *Castes of mind: Colonialism and the making of modern India*. Princeton University Press.
- D'Souza, R. (2008). Framing India's hydraulic crises: The politics of the modern large dam—ProQuest. *Monthly Review*, 60(3), 112–125.
- Dwivedi, S., Chauhan, P. S., Mishra, S., Kumar, A., Singh, P. K., Kamthan, M., Chauhan, R., Awasthi, S., Yadav, S., Mishra, A., & others. (2020). Self-cleansing properties of Ganga during mass ritualistic bathing on Maha-Kumbh. *Environmental Monitoring and Assessment*, 192(4), 1–15.
- Ekhalkar, A., Mohini, G., & Ranjana, S. (2012). Water quality of a temple pond (khajod) of Surat district, India. *Proceeding of International Conference SWRDM*, 27–30. [http://www.unishivaji.ac.in/uploads/journal/Journal\\_42/6.pdf](http://www.unishivaji.ac.in/uploads/journal/Journal_42/6.pdf)
- Erbil, Y., & Mouton, A. (2012). Water in ancient Anatolian religions: An archaeological and philological inquiry on the Hittite evidence. *Journal of Near Eastern Studies*, 71(1), 53–74. <https://doi.org/https://doi.org/10.1086/664572>.
- Findly, E. B. (1979). The “child of the waters”: A reevaluation of Vedic apām napat. *Numen-International Review for The History of Religions*, 26(2), 164–184.
- Freed, S. A. (1970). Caste ranking and the exchange of food and water in a north Indian village. *Anthropological Quarterly*, 43, 1–13.
- Fuller, C. J. (1976). Kerala Christians and the caste system. *Man*, 11, 53–70.
- Hä, E. J. (2007). From water in Greek religion, ancient and modern, to the wider Mediterranean and beyond. *Comparative Civilizations Review*, 56(56), 21.
- Hudson, D. (1980). Bathing in Krishna: A study in Vaiṣṇava Hindu theology. *Harvard Theological Review*, 73(3–4), 539–566.
- Hughes, J. D. (2002). *An environmental history of the world: Humankind's changing role in the Community of Life*. Psychology Press.
- Jadhav, N. (2005). *Untouchables: My family's triumphant journey out of the caste system in modern India*. Simon and Schuster.
- Jadhav, S., Mosse, D., & Dostaler, N. (2016). Minds of caste-discrimination and its affects. *Anthropology Today*, 32(1), 1–2.
- Jain, P. C. (2001). *Globalisation and tribal economy*. Rawat Pubns.
- Joshi, D. (2011). Caste, gender and the rhetoric of reform in India's drinking water sector. *Economic and Political Weekly*, 56–63.
- Kala, C. P. (2017). Conservation of nature and natural resources through spirituality. *Applied Ecology and Environmental Sciences*, 5(2), 24–34. <https://doi.org/10.12691/aees-5-2-1>
- Kögel, T., & Prskawetz, A. (2001). Agricultural productivity growth and escape from the Malthusian trap. *Journal of Economic Growth*, 6(4), 337–357.



- Lawrence, J. D. (2006). *Washing in water: Trajectories of ritual bathing in the Hebrew bible and second Temple literature*. Society of Biblical Lit.
- Lipner, J. (1998). *Hindus: Their religious beliefs and practices*. Psychology Press.
- Livingston, M. (2002). *Steps to water: The ancient stepwells of India* (1st ed.). Princeton Architectural Press.
- Lorenzen, D. N. (1987). The kabir panth and social protest. *The Sants. Studies in a Devotional Tradition of India*, 281–303.
- Lowry, G. D. (1983). Delhi in the 16th century. *Environmental Design*, 1.
- MacKenzie, A. H., & Dickens, C. (2008). An analysis of environmental issues in 19th century England using the writings of Charles Dickens. *The American Biology Teacher*, 70(4), 202–204.
- Magoun, H. W. (1898). Apāṁ napāt in the rig-Veda. *Journal of the American Oriental Society*, 19, 137–144.
- Maya, S. (2003). Temple tanks—the ancient water harvesting systems of Kerala and their multifarious roles. *Indian Journal of Traditional Knowledge*, 2(3), 224–229.
- McKenzie, D., & Ray, I. (2009). Urban water supply in India: Status, reform options and possible lessons. *Water Policy*, 11(4), 442–460.
- Singh, Rana PB Metaphysics and life-philosophy: Raja rao's on the ganga Ghat. (2004). In *Cultural landscapes and the lifeworld. Literary images of Banaras* (first, pp. 197–220). Indica Books.
- Mishra, A. (1994). The radiant drops of Rajasthan. <http://www.arvindguptatoys.com/arvindgupta/anupam.pdf>.
- Mishra, A. (1995). Water harvesting here is not a technique, but a culture. *Down to. Earth*.
- Mishra, A. (2012). The ancient ingenuity of water harvesting systems. *Context*, 9(1), 83.
- Mishra, R. (1999). *Holy pushkar: A pilgrim's journey in quest of lord brahma*. Kanishka Publishers.
- Moorthy, C. S. (2016). *Gleanings from rig Veda: When science was religion*. Notion Press.
- Mosse, D. (1997). The symbolic making of a common property resource: History, ecology and locality in a tank-irrigated landscape in South India. *Development and Change*, 28(3), 467–504. <https://doi.org/https://doi.org/10.1111/1467-7660.00051>.
- Nair, K. S. (2004). Role of water in the development of civilization. *The Basis of Civilization—Water Science?*, 286, 160.
- Nautiyal, C. S. (2009). Scientific validation of incorruptible self-purificatory characteristic of ganga water. *Asian Agri-History*, 13, 53–56.
- Nelson, L. E. (1998). *Purifying the earthly body of god: Religion and ecology in Hindu India*. SUNY Press.
- Pahariya, V. K., & Patil, A. S. (2020). Impact of water body for pilgrim cities in India. *International Journal of Research in Engineering, Science and Management*, 3(9), 44–47.
- Ramachandraiah, C., & Prasad, S. (2004). Impact of urban growth on water bodies: The case of Hyderabad. *Centre for Economic and Social Studies Begumpet*, Hyderabad-500016. <https://core.ac.uk/download/pdf/6604874.pdf>
- Ranganathan, M. (2014). “Mafias” in the waterscape: Urban informality and everyday public authority in Bangalore. *Water Alternatives*, 7(1).
- Rath, S. K. (2004). Narendra tank in legend and history. *Orissa Review*, 13–15.
- Safvi, R. (2014). Understanding ganga-jamuni tehzeeb: How diverse is the. Indian Multiculturalism". DNA India. : DNA Webdesk. Retrieved, 27.
- Sainath, P. (2000). *Everybody loves a good drought*. Penguin UK.
- Sainath, P. (2019, July 25). *The water crisis is not caused by drought* [public lecture]. India development review. *Dialogue*. Mumbai. <https://idronline.org/p-sainath-the-water-crisis-is-not-caused-by-drought/>
- Sarkar, D., Mital, A., Mondal, R., Kumar, R. S., & Talukdar, G. (2019). ‘Community ponds: A tool for conservation’. A case study of Nilssononia gangetica (Cuvier, 1825) in Kashipur village, Uttar Pradesh. *India. Herpetology Notes*, 12, 631–636.
- Sharma, B. S. (2012). Anthropomorphism of river narmada: A cultural study of a river sutra. *The Criterion: An International Journal in English*, 3, 2–11.



- Sharma, S., & Shruthi, M. S. (2017). Water in Hindu scriptures: Thank you, water! In K. V. Raju & S. Manasi (Eds.), *Water and scriptures: Ancient roots for sustainable development* (pp. 89–172). Springer International Publishing. [https://doi.org/10.1007/978-3-319-50562-6\\_4](https://doi.org/10.1007/978-3-319-50562-6_4)
- Shaw, M. (2005). Poseidon, from water folk (1932). *Notes, Texts, Translations*, 6.
- Singh, A., Nath, V., Kumar, S., Singh, B. S., & Reddy, B. (2016). 17 the role of a traditional festival, Chhath puja, in the conservation and sustainable use of tropical fruits. *Tropical Fruit Tree Diversity*, 217.
- Singh, M., & Upmanyu, V. (2019, October 11). Urban flooding: The case of drowning cities and rising vulnerability. *Down to Earth*. <https://www.downtoearth.org.in/blog/natural-disasters/urban-flooding-the-case-of-drowning-cities-and-rising-vulnerability-67203>.
- Sivaramakrishnan, K. (2001). Purifying the earthly body of god: Religion and ecology in Hindu India (SUNY Ser Relig. Stud.). *Journal of the Royal Anthropological Institute*, 7(1), 161–161.
- Thieme, P. (1970). Sanskrit “sindhu-/Sindhu-” and old iranian “hindu-/Hindu-”. Lund Humphries.
- Verma, R. (2016). *February 16*. Lucknow’s waterbodies perish at the hands of unregulated construction. <https://www.downtoearth.org.in/news/urbanisation/lucknow-s-waterbodies-perish-at-the-hands-of-unregulated-construction-52811>
- Wagner, J. R. (2013). *The social life of water*. Berghahn Books.
- Warrier, S. (2014). *Kamandalu: The seven sacred rivers of Hinduism*. Mayur University.

**Deepak Singh** is working as a Researcher in the WG-1 of Project Aakash and is trying to help show the linkages of air pollution in northern parts of India with historically embedded socio-economic and environmental realities. Dr. Singh is an electrical engineer turned social scientist with a PhD in Science Policy. He has over fifteen years of cumulative industrial, field, and academic experience, and his areas of interest are in energy, environment, and public policy.

**Hari Charan Behera** is an Associate Professor at Sociological Research Unit (SRU) of the Indian Statistical Institute (ISI), Giridih. He works in the area of land tenure, community land use practice, agrarian society, and ethnography. He is working on the livelihood issues of tribes and the particularly vulnerable tribal groups in eastern India. He has also been a critic of neoliberal economic model that is affecting culture, environment, and sustainable livelihood of tribes and other indigenous communities.