

Ganges water pollution and its management through religion

A. K.Chopra, G.Prasad* and D.R. Khanna

Department of Zoology & Environmental Sciences
Gurukula Kangri University, Haridwar

* Department of Botany & Microbiology, Gurukula Kangri University, Haridwar

Abstract

The Ganges, a major river of the Indian subcontinent, associated with myth and reality of people, is becoming polluted on its way down to the Indian Ocean. The pollution starts from the beginning itself but the prominent cities which are adding substantially to the woes of the Ganges are Kanpur., Allahabad, Varanasi, Patna and Calcutta. The major polluting industries are the leather industries that use large amounts of Chromium and other chemicals, and much of it finds its way into the meager flow of the Ganges. Besides, a large volume of waste-estimated at nearly 1 billion liters of mostly untreated raw sewage is dumped in the river per day. Also inadequate cremation procedures contribute to a large of partially burnt or unburnt, corpse floating down the Ganga, not to mention livestock corpses. The 'Ganges Action Plan' was set up which formed a number of waste treatment plants and most of the work was limited to monitoring of the various parameters of the water from time to time. But today, there is an urgent need of arousing the religious sentiments of the people of the region who have always revered the Ganges not just as a river but as a Goddess. The self-purification of the people will help in maintaining the long-standing self-purification property of the river Ganges intact.

Introduction

The river Ganges is held as sacred and the symbol of India's age-old civilization and culture. It is a major river of the Indian subcontinent and is the lifeline of the people of India. The Ganges is unique because it is considered holy by the Hindu people of India. No river in the world plays a more important economic, social and cultural role in the lives of people than the Ganges. The river is also known as Maa Ganga or Mother Ganges and millions of people take a holy dip in the river each day. Millions of people rely on the river for their physical and spiritual sustenance. Also they believe that the water heals you from sin, and if you get cremated in the Ganges you are sure to get a better after-life.

The Ganges has an exalted position in the Hindu ethos. It is repeatedly invoked in the Vedas, the Puranas and the two Indian epics, the Ramayana and the Mahabhartha. It is believed that Bhagiratha, who after severe austerities, propitiated the Ganga Devi, a Goddess and she agreed to come down to earth. Seeing the severity of impact of her fall that could be borne by none less than Shiva himself, Bhagiratha went into meditation again and obtained Shiva's consent after many more austerities. Finally, the river came down and fell into Shiva's matted hair, and hence to earth. This is the presumed site of the present-day temple at Gangotri.

Bhagiratha led the way on horse back and the river followed and an ocean formed from the waters there. This is the Sagar Island of today, where the Ganges flows into the Bay of Bengal ("Sagara" is also Sanskrit for ocean). Hindus use the water of the Ganga to cleanse any place or object for ritual purposes. Bathing in the Ganges is still the lifelong ambition of many of India's believing masses, and they congregate on its banks for the tremendously overcrowded Sangam, Sagar Mela or Kumbh Mela which are held on auspicious dates every few years.

The river emerges in spectacular fashion from an ice cave under the Gangotri glacier, a vast expanse of ice five miles by fifteen, at the foothills of the Himalayas (14000 ft) in North Uttaranchal. It is the source of Bhagirathi, which joins Alaknanda (originating nearby) to form Ganges at the craggy canyon-carved town of Devprayag. From Devprayag it goes to Rishikesh, Haridwar and then passing some of the most populous cities of India, including Kanpur, Allahabad, Varanasi, Patna and Calcutta and then to the Bay of Bengal flowing a distance of about 2507 Km. The largest tributary to the Ganges is the Ghaghara, which meets it before Patna, in Bihar, bearing much of the Himalayan glacier melt from Northern Nepal. The Gandak, which comes from near Kathmandu, is another big Himalayan tributary. Other important rivers that merge with the Ganges are the Son, which originates in the hills of Madhya Pradesh, the Gomti which flows past Lucknow, Yamuna, Chambal and Karvi. These tributaries are very useful in maintaining the volume of water in the river Ganga throughout the year.

There are two major dams on the Ganges, one at Haridwar diverts much of the Himalayan snowmelt into the Upper Ganges Canal, built by the British in 1854 to irrigate the surrounding land. This causes severe deterioration to the waterflow in the Ganges, and is a major cause for the decay of Ganges as an inland waterway. The other dam is a serious hydroelectric affair at Farakka, close to the point where the main flow of the river enters Bangladesh, and the tributary Hooghly (also known as Bhagirathi) continues in West Bengal past Calcutta. This barrage feeds the branch of the river by a 26-mile long feeder canal. On its way, the river is also fed by a dwindling supply of

subsoil streams. These streams are drying up because much of the forest has been cut down.

Life-line

400 million people live in the Ganges river basin and depend on the river for their lives. The water is used extensively for irrigation, agriculture production, Industries and domestic purpose. It also helps in maintaining water table of underground water by recharging. Floods of the Ganges have enriched the soil. This makes the Ganges Valley a great agricultural region in India. Fishing also is an important use of the Ganges. The electricity is generated at the waterfalls of upper part of the Ganges. The river is also important for transportation, many cities get their drinking water from the Ganga. There are many major industries along the Ganges. The important ones are food processing, clothes and other textiles, leather, paper and pulp, manufacturing of tools and Chemical processing. In the lower part of the river there is metal and other mineral production.

Pollution

It is quite unfortunate that Ganges the lifeline is becoming polluted. The pollution has become a huge problem on the Ganges. The river is polluted by enormous quantities of human and industrial waste. The Disease-causing organisms and poisonous chemicals abound in her ever-sacred waters.

Many of the cities have steps called Ghats along the riverbank so the people can bathe in the water. They also wash their clothes in the river. At many places there are times where massive bathing (millions of people) takes place and millions of people take bath, during a few days. People are cremated and dumped in the river because they believe that the river will purify them (sometimes cremated people are not burned well because they can't afford much kindle). It is common Hindu practice to scatter the ashes of the dead in the Ganges. The people along it dump sewage into the river. Factories dump chemicals and waste into the river. Narora nuclear power plant discharges its water into the lower Ganges canal. Agricultural chemicals wash into it. There's too much grazing of animals that make waste, which runs into the river.

The pollution begins soon after the Ganges begins its slow journey through North India plains, some 165 miles downstream at Rishikesh, most of its dry-season flow is diverted to Canals, first at Haridwar and then near Aligarh. At the same time, town and industries discharge a large amount of waste in the sacred waters. The major polluting industries on the Ganges are the leather industries, especially near Kanpur, which use large amounts of Chromium and other chemicals

and much of it finds its way into the meager flow of the Ganges. By the time the river leaves Kanpur, one of the big industrial centers along the river, the load of human, animals and industrial waste becomes overwhelming, threatening the rare species of fish, dolphins and soft-shell turtles. Allahabad is the sacred meeting point for the Ganges and the Yamuna, a river that becomes heavily contaminated as it oozes past the country's capital, Delhi. In ancient city of Varanasi, it is considered particularly auspicious to die here, where hundreds of corpses are burnt on the banks every day. Many bodies are pushed into the water without being burnt. However, industry is not the only source of pollution but a large volume of waste—estimated at nearly 1 billion liters of mostly untreated raw domestic sewage is dumped into the river per day. Also, inadequate cremation procedures contribute to a large number of partially burnt or unburnt corpses floating down the Ganges, not to mention livestock corpses. Thus pollution multiplies as the river moves downstream because very little fresh water is generated between towns. The global warming is also causing a decline in the snowfall on glaciers, needed to replenish it.

The pollution of water can be a host of diseases—hepatitis amoebic dysentery, typhoid, cholera and cancer—among the roughly 400 million people who live in the vast Gangetic basin. Waterborne diseases such as diarrhoea and cholera sap the lifeblood from the people causing death malnutrition, especially for children. Hindus believe that a dip in the holy Ganges will cleanse their souls of sin. But the pollution that bedevils the river could do untold damage to the bodies of the faithful who bathe in it. The people cannot escape the physical onslaught of raw sewage, rotting carcasses, industrial effluent, fertilizers and pesticides that infect the river from the Himalayan foothills to the Bay of Bengal.

Ganga Action Plan

Alarmed by the rising level of pollution, an ambitious Ganga Action Plan was launched with great fanfare in 1986 by the Govt. of India to clean the river. But little has been achieved. Many sewage treatment plants were set up in major cities like Haridwar, Kanpur, Allahabad, Varanasi and Calcutta. Unfortunately treatment plants are not doing their job for which they were designed. The sewage is not being treated to their capacity. The plants are very energy intensive and expensive to run. The main plants remain off during the frequent energy blackouts, do not remove pathogenic bacteria and cause a build up of pollution alongside several villages. The plants need constant power supplies that are not available. It has met only 39 percent of its primary target for sewage treatment. This results in sewage to back up throughout the city flowing out into the religious bathing areas, out through manhole covers and into the streets. The health problems are devastating.

Besides, less than half of the grossly polluting industrial units lining the 1,560-mile river had installed effluent treatment plants, and over 18 percent of them did not function properly. " The authorities claim that almost all industrial units are diverting their effluent to treatment plants but the ground reality is that their claim is exaggerated. The experts say the level of pollution in the river has been contained, even if it has not been eliminated. Electric crematoria were built but not in use due to religious sentiments. Meanwhile, the government is planning to build more than 50 dams and barrages to regulate the river-flow, supply water and generate power. The largest of them near Tehri has already attracted controversy amid concerns about safety and the environment.

Fighting Pollution with Religion

Religion is the most powerful tool of the Indian civilization. Not from today but from time immemorial religion has remained one of the most important aspects of the people of this land. Only an individual, that is, one not divided against one self, can imbibe this humanizing state and claim to be religious. Without the stars in the sky and the sun rising behind the hill, without that woman with a child in her lap, and the man in an ancient turban passing by, without the glint of cheer in children's eyes, there can be no religion worth the name. Religion is the symbiotic relationship between man and his environment, promising a homogenized congenial ambience. The religious sentiments of the people have been responsible for each and every revolution that has ever taken place in this land of Gods. Today also there is need of a revolution not in the outer world but in the hearts and minds of the people who have for long worshipped the Ganges not only as their lifeline but as a Goddess who looks after her children just like a benevolent mother. Today this sentiment has to be aroused in each and every Hindu that they have now troubled their Mother a bit too much and that she is in a lot of pain.

Religion may succeed where the government has not. It is imperative to revive the religion feelings among the society so that besides that Government efforts to enforce using the scientific application for prevention and control of Ganges pollution, the guidelines given by ancient Rishis/ Sages for prevention and control of pollution are self-generated among the people. A large number of norms have been suggested in the Hindu's sacred literature. It has been suggested that there should not be any bank-side construction on river Ganges. A few examples of the instructions given in sacred literature are quoted here.

न दन्तधावनं कुयादि गंगा गर्मे विचक्षणः
परिधेयाम्ब्राम्बूनि गंगा प्रेतसिनत्यजेत्।
'पदमपुपाण'

i.e. Neither should one brush his teeth nor should one wash his clothes in the holy river Ganges.

मलं प्रक्षालयेत्तीरे ततः स्नान समाचरेत् ।

'मेघानिति'

I.e. One should take bath in the river only after defecating elsewhere.

Thus, taking the example from such religious scriptures, the religious teachers should awaken the people about maintaining the sanctity of the river Ganges. Further, the religious heads of different organizations should come forward in cleaning and management of Ganga as they can catch the sentiments of people. People have great faith in them and follow whatever they preach. One of the most gallant examples of such a revolution spearheaded by religion was the effort made by the people of Shanti Kunj, Haridwar way back in 2000 when they lead their volunteers to clean the Ganges strip of Haridwar without any Govt. aid. Their efforts of 2000 were really commendable. Today there is a need of not only initializing such programs but also to see to it that these programs continue till each and every patch of this sacred river is cleared from dirt and also each and every national starts feeling it as his or her responsibility to keep their Goddess pure. The religious organization can facilitate in running environmental education and training centers/ programs and can promote active participation of pilgrims, riverside local villages, schools, community-based organizations in the cleaning and protection of the river. The religious sentiments of purifying the self should be aroused. The self-purification of the people will help not only in cleaning the Ganges water but also in maintaining the long-standing self-purification of the river Ganges intact.

References

- Anderson, J. W. 1992. *The Great Clean up of the Holy Ganges*. The Washington Post, September 25
- CD-ROM 1995. *Ganges River*. Compton's Interactive Encyclopedia.
- CD-ROM 1995. *Ganges River*. Grolier Electronic Encyclopedia.
- CD-ROM 1996. *India*. World Book Electronic Encyclopedia.
- Chaphekar, S.B. and Mhatre G. N. 1986. *Human Impact on Ganges River Ecosystem*. New Delhi: Concept Publishing Company.
- Mago, C. 2001. *All Plan, No Action on Ganga*, The Hindustan Times. New Delhi.
- Singh R. 1992. *The Ganges*. Aperture New York.

