

## **Socio-environmental challenges of the river Ganges in India**

### **Les enjeux socio-environnementaux du fleuve Gange en Inde**

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#### **RÉSUMÉ**

Le Ganges est l'un des plus larges et plus sacrés fleuves d'Inde, avec une grande influence spirituelle, culturelle et physique. Son origine provient du glacier Gangotri dans l'Himalaya et traverse les régions les plus denses d'Inde, notamment les 29 villes majeures des 11 Etats de Uttarakhand/Uttar Pradesh jusqu'au Bengal Ouest, avec une distance totale de 2,500 km avant de se jeter dans la baie du Bengal. Il fournit l'eau à environ 40% de la population en Inde et représente le gagne-pain de plus de 550 millions de personnes qui habitent à l'intérieur du bassin Ganges. L'une des idées locales est que le fleuve Ganges est un remède contre les maladies de la peau. De nos jours, l'eau du fleuve Ganges est extrêmement polluée. De nombreuses tanneries, usines industrielles, usines de textile, distilleries, abattoirs et hôpitaux contribuent à la pollution du Ganges en déchargeant des déchets toxiques et non biodégradables sans traitement dans le fleuve. Il y a de plus en plus d'habitations et de population sur les rives du Ganges. Tout le monde prend l'eau du fleuve et y jette les déchets. Ce volume important de polluants déchargés dans le fleuve est responsable de dégâts irréparables pour l'écosystème du Ganges.

#### **ABSTRACT**

Ganges is the largest and the most sacred river in India with enormous spiritual, cultural, and physical influence. It originates from the Gangotri glacier in Himalayas and flows through the most densely populated regions of India passing 29 major cities of 11 states from Uttarakhand/ Uttar Pradesh to West Bengal throughout its course of 2,500 km before falling into the Bay of Bengal. It provides water to about 40% of India's population and livelihoods to over 550 million people who lives within the Ganges Basin. A local version is that clean Ganges water cures skin diseases. The Ganges water now is being polluted at an alarming rate. Countless tanneries, chemical plants, textile mills, distilleries, slaughterhouses, and hospitals contribute to the pollution of the Ganges by dumping untreated toxic and non-biodegradable waste into it. There are more settlements and many more people live along its bank. All take water and return only waste. It is this sheer volume of pollutants released into the river every day that are causing irreparable damage to the Ganges ecosystem.

#### **KEYWORDS**

Effluents, Ganges Action Plan, Himalayas, pollution, waste

## RESTORE SANCTITY OF THE GANGES

### 1.1 Ganges Today

Ganges is the largest and the most sacred river in India with enormous spiritual, cultural, and physical influence. It originates from the Gangotri glacier in Himalayas and flows through the most densely populated regions of India passing 29 major cities of 11 states from Uttarakhand/ Uttar Pradesh to west Bengal throughout its course of 2,500 km before falling into the Bay of Bengal. The following Fig.1 shows the course of river Ganges in India. Ganges is not an ordinary river. It is a life-line, a symbol of purity and virtue for countless people of India. Ganges is a representative of all other rivers in India. Millions of Ganges devotees and lovers still throng to the river just to have a holy dip, Aachman (Mouthful with holy water), and absolve themselves of sins. The Indians are raised to consider Ganges as a goddess, as sacred. It provides water to about 40% of India's population and livelihoods to over 550 million people who lives within the Ganges Basin. A local version is that clean Ganges water cures skin diseases. The Ganges water now is being polluted at an alarming rate. Ganges's journey through Uttar Pradesh (from Haridwar to Allahabad and Varanasi) and further down in other states is disastrous. A sizeable proportion of the effluents in Ganges are caused by the population of these cities through domestic usage like bathing, laundry and public defecation. Countless tanneries, chemical plants, textile mills, distilleries, slaughterhouses, and hospitals contribute to the pollution of the Ganges by dumping untreated toxic and non-biodegradable waste into it. The following Fig 2 shows the dumping of untreated affluent into the river Ganges. The river does not get the chance to assimilate the waste poured into it from cities and industries. Moreover, according to Hindu rituals, several thousand dead bodies are cremated on the river bank specially in Varanasi, which is one of the oldest living cities in the world where Hindus have been performing religious and cultural activities since centuries. This results in generating several hundred tons of ash which is immersed into the river. The following Fig.3 shows a person performing the rituals in the river Ganges. In addition, half-burnt human bodies are also thrown into the river which further aggravates the pollution. It is only the half way at Allahabad that some cleaner water through another large river Yamuna joins the Ganges, which helps it to recover somewhat. In the upper reaches of the Ganges in the Himalayas, the river's oxygenating ability is the highest but in these parts, water withdrawal for the existing and proposed 300 hydropower plants on the Ganges and its tributaries in the near future has put the river's health in danger. As the Ganges flows down the plains, water is taken away for irrigation and drinking. Due to global warming the Gangotri glacier is receding very fast since 1971. The UN 2007 Climate Change Report has suggested that the glacial flow may completely stop by 2030, at which point the Ganges would be reduced to a seasonal river during the monsoon season leading to droughts at some places. Therefore, the green panel report submitted to the government has recommended scrapping 34 of the dams citing environmental concerns.

In 1986, the government had launched the first phase of Ganges Action Plan (GAP) to protect the country's largest river basin. It selected stretches of the river along 25 cities in Uttar Pradesh, Bihar and West Bengal and proposed to built the electric crematorium, sewage treatment plants to treat the affluent before discharging it into the river and provide sanitation facilities all along the course of Ganges river. But the GAP didn't meet with the success as the control of non-point pollution from agricultural run off, human defecation, cattle wallowing and throwing of un-burnt and half burnt bodies into the river could not be effectively controlled. Rivers have the ability to clean themselves—to assimilate and treat biological waste using sunlight and oxygen. But the Ganges gets no time to breathe and revive. There are more settlements and many more people live along its bank. All take water and return only waste. It is this sheer volume of pollutants released into the river every day that are causing irreparable damage to the ecosystem. Needless to say, that we need to stop human interferences with Ganges water, increase the capacity for treating the sewage, conserve the biotic diversity and rehabilitate the soft-shelled turtles to control pollution.

The Ganga today is more polluted than when the Ganga Action Plan was first initiated in 1986. The fast shrinking glaciers, dams, barrages, canals and alarmingly high volume of pollution pose an ever increasing threat to the health and life of the river. The state of Uttar Pradesh alone is responsible for over 50% of the pollutants entering the river along its entire journey to the sea. The defilement of the river Ganga begins at Rishikesh when the river enters the plains. The Ganga river water is brown or black in colour from Narora to Varanasi during the lean months. At Kanpur the water stinks even during the monsoon when the river is flooded. Since the launching of GAP, things have gone downhill in a big way in Kanpur. The amount of filth along and in the river still continues unabated. Polybags are tossed in publicly and casually; piles of refuse tumble down slopes to the river edge. The river is

still the private garbage dump of industries and individuals alike. During the lean period, the river is so shallow that one can walk through the black muddy waters of the river. The river is littered with human corpses and animal carcasses throughout its course and the sight is truly offensive, repulsive, irritating, and disgusting and the oily blue-black stench of tannery waste is unbearable. These are utmost insults to the holiness of the river and any idea of purity.



Fig.1 Map showing river Ganges



Fig.2 Untreated industrial affluent



Fig.3 Hindu rituals

Today there are more than 50 drains carrying raw sewage to the river Ganga and Yamuna at Allahabad while there were only 13 drains before GAP was launched in 1986. Every Magh mela, Ardha-kumbha, and Kumbha, sadhus and saints protest in large numbers against the river pollution and boycott the ritual bathings. Nowhere in Varanasi the Ganga is worth taking a holy dip. The coliform and faecal coliform count is exceedingly high in the river water. The 84 bathing ghats are sandwiched between two tributaries, Assi and Varuna, which are now huge sewage drains.

As the Ganga continues to wind its way down towards Kolkata she experiences dozens of similar assaults that leave her waters fetid and filled with toxins and diseases. The situation is the same throughout the length of the river.

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