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On the Banks of River Ganga, beyond Myth and Mystics

- Swati Shubhra • Nikki • Anamika
- Priyanka

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Corresponding Author : Priyanka

Abstract : *History today is not just confined to the realm of social science and humanities. Its field has expanded a lot and now even study of environment in the prospect of history has become a part of it.*

The Ganges along with her tributaries has fostered the civilization of India since eons. Whether it is economy, science, culture and natural ecosystem are all directly and indirectly connected to it.

However, the ever-increasing human population and the rising graph of the pollution level has affected its health severely, which will one day or another prove to be fatal for the humans as well as for all the other living beings.

Keywords : *Pollution, Environment, Civilization, Population, Economy, Government.*

Swati Shubhra

B.A. III year, History (Hons.), Session: 2014-2017,
Patna Women's College, Patna University, Patna,
Bihar, India

Nikki

B.A. III year, History (Hons.), Session: 2014-2017,
Patna Women's College, Patna University, Patna,
Bihar, India

Anamika

B.A. III year, History (Hons.), Session: 2014-2017,
Patna Women's College, Patna University, Patna,
Bihar, India

Priyanka

Assistant Professor, Department of History,
Patna Women's College, Bailey Road,
Patna – 800 001, Bihar, India
E-mail : priyankapatna1@gmail.com

Introduction :

Gone are the days when history was considered merely a descriptive compendium of political events associated with the rise and fall of dynasties, kings, courts, wars and peace. Today, we have a more humanistic approach towards its study which takes into account all the multifarious activities of man and his surroundings. Over a period of time, different scholars have perceived it through different lenses, while history, itself, since ages, had been trying to identify itself either with humanities or with social science. On the other hand, many historians often view it, as a bridge between these two streams. It wasn't before the 20th century when a French historian Fernand Braudel used outside disciplines like economics, geography, and anthropology in the study of global history and revolutionized it. Another milestone in this revisionary change was the rise of Environmental History between 1960s and 1970s which focused on the study of how humans and environment reciprocate in shaping each other. Environmental historians believe that even a small change in the environment affects human life and culture, and also predisposes the route of its advancement. Similar is the saga of the Ganga in India. The Ganges, the salvation of millions, is not just a river but also a hallowed mother which epitomizes love and sacrifice. She is one of those entities which represents the heritage and culture of India. The saga of this river from her origin to her emergence and her final flowing into the sea is a narrative of India's grandiose civilization, rise and fall of empires, great cities and adventures of men.

Objectives :

- To study the role of the Ganga in the rise of Patliputra.
- To illustrate the importance of conservation of a wide variety of flora and fauna found in the Ganga basin.
- To create awareness among people regarding the increasing pollution level of the Ganga.
- To examine the steps taken by the government in the cleaning of the river Ganga.

Hypotheses :

- River Ganga has been the witness of developing Magadha's civilization as it played a crucial geographic, economic and political role in its rise.
- Agriculture, the backbone of India's economy owes its prosperity to the flood plains of river Ganga.
- Other aspects of the Ganga have been overshadowed due to its religious and spiritual importance.
- Blinded by the canonical rituals, a majority of people are overlooking the increasing pollution level of River Ganga.
- Measures taken till now have failed to take concrete shape as government's actions are too slow to rescue the ailing river Ganga.

Methodology :

The project study is a survey research based on qualitative approach.

- The research is based on primary as well as secondary data.
- The research is based on information and data collected from various books, internet, journals, newspapers, media and other readily available sources.
- Survey was conducted in the form of a questionnaire and explorative interviews with various personalities working in this field e.g. professors like Dr. A.K. Ghosh, Dr. R.K. Sinha, Environment Minister Tej Pratap Yadav and others, along with the commoners.

- Our research consisted of three phases: desk research, fieldwork and analysis of the findings.

Chasing the Chariot of the Bhagirathi :

Emanating from the Gangotri glacier, headwaters of Ganga called the Bhagirathi meets the Alaknanda at Devprayag in Uttarakhand. At Haridwar, the Ganga emerges from the mountains on to the plains. She is joined by many tributaries from the Himalayas, a few of them being major rivers such as the Yamuna, the Ghaghara, the Gandak and the Kosi. The Yamuna rises from the Yamunotri Glacier in the Himalayas. It flows parallel to the Ganga and as a right bank tributary, meets her at Allahabad. Besides, the Ghaghara, the Gandak and the Kosi rise in the Nepal Himalayas. The main tributaries coming from the peninsular uplands are the Chambal, the Betwa and the Son. These rise from the semi arid areas, have shorter courses and do not carry much water in them. Swelled up by the waters of her tributaries from both the right bank and the left bank, Ganga flows eastwards till Farakka in West Bengal. This is the northernmost point of the Ganga delta, here she bifurcates; the Bhagirathi - Hooghly flows southwards through the deltaic plains to the Bay of Bengal. The mainstream flows southwards into Bangladesh and is joined by the Brahmaputra. Further downstream, it is known as the Meghna. This mighty river, with waters from the Ganga, and the Brahmaputra, flows into the Bay of Bengal (Contemporary India I, Class IX, NCERT Textbook).

Ganga's Hold on the Society :

The Northern Plains are formed by the interplay of the three major river systems, namely- the Indus, the Ganga and the Brahmaputra along with their tributaries. It is a densely populated physiographic division. The rich soil cover combined with adequate water supply and favourable climate makes the land very fertile to carry out agricultural activities (Contemporary India I, Class IX, NCERT). As the Ganges and its tributaries acts as a perennial source of irrigation, various crops like rice, sugarcane, lentils, oil seeds, potatoes, and wheat are grown here. Besides, along the banks of the river, the presence of swamps and lakes provide a rich growing area for crops, such as, legumes, chilies, mustard, sesame, sugarcane, and jute. Besides, there are many fishing opportunities along the river as well

(<http://en.m.wikipedia.org/wiki/ganges>). Riverine fisheries of the Gangetic basin support one of the largest fishing populations of the world who earn their livelihood on the banks of the sacred river (Dams, Fish and Fishing Communities of River Ganges by Nachiket Kelkar).

Besides, tourism, too, has thriven as the sacred cities like Haridwar, Prayag, Varanasi et al attract myriads of pilgrims (<http://en.m.wikipedia.org/wiki/ganges>). All these activities strengthen the economy of India.

For the people of India, especially the Hindus, her water is nectar, a sole dip in which can wash away all the sins and pave the way to heaven. Its lores enchant millions of visitors from around the world who come to its banks for soul searching and quenching their spiritual thirst. Besides, the contribution of this river in moulding our culture, tradition and heritage remains unparalleled.

Increasing Pollution Level :

But, a bizarre dichotomy exists between pilgrims' reverence for the river and their willingness to pollute it. Over a period of time, the unchecked discharge of industrial and biological waste has taken a flagrant toll of the river. Ironically, Ganga, the ancient insignia of chastity, is slowly turning into a giant open sewer, carrying the brunt of both sins and trash of the devout humans. This detrimental metamorphosis began centuries ago, when the basin's rich cropland and abundant wildlife made it a perfect place for human settlement. For a long time, the river seemed impervious to damage, as its enormous volume diluted and decomposed the waste very rapidly, and the annual monsoon used to flush it out. But, with the 20th century, saddle of burgeoning population, rapid urbanization, construction of ill planned dams, barrages and acute climatic change affected the health of the river (The Spoiling of the Ganges, Hinduism Today). Certainly, the presence of Bacteriophage, a kind of virus that infects and replicates within bacteria and doesn't let it grow in the river water (<http://explorecurrosity.org/>) imparts a unique self cleansing property to the river, but the alarming rate at which the river water is being degraded, the balance of contamination and revitalization has undergone a severe jolt.

In Uttarakhand : Various researchers consider that it is Rishikesh where the defilement of the Ganges begins, as slurry of untreated sewage is dumped into the

river along with hydrochloric acid, acetone and other harmful chemical waste from pharmaceutical companies, and heavy metals and chlorinated solvents from electronic plants. From Rishikesh, the river is never able to regain its balance before the next onslaught of unsought offerings comes its way.

In Uttar Pradesh : However, the worst assault occurs in Kanpur, where the hides of horses, goats and cattle are brought to factories for tanning. The tanneries which operate here consume and discharge large quantities of waste water as the animal skins go through an extensive chemical treatment from the time they are scoured with lime till they are treated with chromium salts. The chromium lends a greenish hue to the drinking water the city draws from the river. Organic wastes such as hair, flesh and other animal remains are thrown into the river, giving it a strong unpleasant smell. As they sink into the water, they mingle with the effluents of other industrial plants, mainly sugar factories that disgorge a thick molasses like substance, and textile companies that throw in various bleaches, dyes and acids. Besides, Kanpur also disgorges millions of liters of sewage each day.

Another dose of pollutants comes straight from the Indian Farmers Fertilizer Cooperative, a group of fertilizer factories just before the city of Allahabad. Laden with raw sewage, heavy metals, fertilizers and pesticides, the river heads east toward its junction with the Yamuna. Flowing parallel to the Ganga just a little to the west, the Yamuna passes through New Delhi, picking up another massive quantity of sewage and other pollutants and merges with the Ganga at Allahabad where, the now voluminous Ganga, receives an additional load of million liters of sewage each day. Later, in Varanasi, the condition continues to worsen. Multitudes of pilgrims come here to bathe in the river and drink its water, convinced of its purifying qualities and unconvinced by the fact that the coliform bacteria levels here far exceed the limits considered safe.

In Bihar : Further alterations take place in Patna, a major producer of agricultural chemicals and further downstream a large oil refinery at Barauni which is notorious for piping oily sludge into the river.

In West Bengal : As the journey of the Ganges takes a southward direction, a series of industrial plants in Kolkata awaits her with their share of junk, a major

portion of which comes from pulp and paper industries which discharge a dark brown, oxygen craving slurry of bark and wood fiber, mercury and other heavy metals which accumulate in fish tissues and chemical toxins like bleaches and dyes and which produce dioxin and other persistent compounds, equally detrimental for both the river and the living organisms (The Spoiling of the Ganges, Hinduism Today) . Until her final merger with the Bay of Bengal, Ganga, the quintessence of purity, becomes an expression of tribulation.

Biomedical and Other Pollutants Contaminating the Ganga : Chagrined by her fetid stench and degraded quality” she screams for attention but in vain. In addition, the biomedical waste and religious offerings multiply the misery of the river, Moreover, as mass cremation takes place on the banks of the river, half burnt carcasses and even the dead bodies of humans and animals floating on river surface has become an everyday view (The Sacred and the Profane by Vidya Venkat).

Reverberation of Pollution : All this has its fair share of repercussions. Dr. Ashok Ghosh, a retired professor of A.N. College, Patna, who is currently doing research at the Mahavir Cancer Sansthan, sites that a number of water borne diseases such as typhoid, cholera, viral hepatitis etc have been detected among the people living around the banks of the Ganges. He also added that due to the presence of heavy metals such as Arsenic, Lead et al and various other chemical pollutants, which are discharged straight into the river by industries and various factories, without any proper treatment, also cause many deadly diseases, including cancer. On the other hand, **Padma Shree recipient Professor R.K. Sinha, a world-renowned wildlife conservationist and head of the zoology department, Patna University,** considers that, besides the directed incidental killing of the Ganges River Dolphin, the national aquatic animal. of India, the harrowing increase in the pollution level of the river is a major cause for the decline in its number and that of the other aquatic animals which live in and around the river. He also clarified that, as the dolphin sits at the apex of the food chain, its abundance is an indicator of the good health of the river. But, it is an accepted fact that today; one can hardly see dolphins in the Ganges, which speaks volumes about the predicament of the river. What is a cause for more worry, however, is that wildlife

conservation almost neglects the aquatic fauna, focusing more on terrestrial endangered animals. He also opined that, since ages, we Indians have been identified as ‘people belonging to the land of Ganga’ and without this divine river, it will be impossible to imagine the future of India which thrives on its banks.



The ruling governments, have, for very long been launching various programs for the revitalization of the Ganges. From Rajiv Gandhi to Manmohan Singh, none failed to register their contribution. Sewage treatment plants were opened, several committees were formed. However, it all failed abjectly and the sorry state of the Ganga continued. But the recent launch of the ‘Namami Gange’ programme by the NDA government, under the aegis of Prime Minister Narendra Modi, has given a new spark of hope to the ailing river.

Short term measures: Upgrading the existing sewage treatment plants; improving sanitation in towns along the Ganga; conservation of Dolphins, Turtles and Gharials; and afforestation along certain sections of the Ganga.

The medium-term plan: Rs. 51,000 crores (US\$ 8.3 billion) will be invested in sewerage infrastructure in 118 towns and open defecation will be banned in villages and small towns along the river banks. The Central Pollution Control Board (CPCB) will also enforce a zero liquid discharge policy for heavily polluting industries located in the Ganga Basin. In an affidavit submitted to the Supreme Court of India, the government has also promised to tackle pollution in Kanpur, a city in Uttar Pradesh infamous for its polluting leather industry, which discharges torrents of toxic waste straight into the river (India’s Plan to Clean Ganga Flawed, say experts, by Juhi Chaudhary).

This ambitious project has succeeded in creating buzz all around the globe, and the World Bank

www.worldbank.org and countries like Germany (Business Standard New Delhi 13th April, 2016; Australia One India News, Thursday, 27th June, 2013) etc. have also lent their helping hands for this great cause.

Namami Gange : A Hogwash ?

But back home, besides garnering applause, it has also received brickbats from the opposition political parties and the environmentalists who termed this project 'vague' and 'pedantic'. They have pilloried the government for serving 'old wine in a new bottle' and for failing to convince them with their methods to control the industrial influx in Kanpur and conservation of biodiversity. Rakesh Jaiswal, who heads the Kanpur-based NGO Eco Friends and has been crusading for the Ganga for decades, is not impressed. He says "I think they are asking for the moon. Achieving zero discharge from the polluting industries will be next to impossible. They can still manage to do it for the big and medium industries but what about thousand of small-scale industries in the informal sector that are operating on the bank (India's Plan to Clean Ganga Flawed, say experts by Juhi Chaoudhary) Besides, not much emphasis is laid on restoring the catchment areas, maintaining the flow of the river and the condition of the tributaries, while replenishment of the Sewage Treatment Plants hog the spotlight. But this, according to the scholars is not an all-round viable solution to tackle the problem. Decades ago, a huge amount of money was put into the Ganga Action Plan launched by the then Prime Minister Rajiv Gandhi, which established a series of Sewage Treatment Plants, but most of which either developed major glitches or are not working at all.

Besides, the government has also been lambasted for its slow action. Even the Supreme Court of India slammed the government for the lack of proactive response from their side and said that with the current 'pace of progress of the scheme, it would take 200 years to clean the river Ganga. Patna based **environmentalist and activist Vikas Chandra a.k.a. Guddu Baba who has dedicated his life for the service of river Ganga** said that, with almost three years gone by, no pivotal change could be witnessed in the health of the Ganga which is one of the most polluted rivers in the world. He added that till now what Ganga has received is just lip service. He lamented the ill working of the STPs and lack of positive response from the Bihar Government and the Municipal Corporations as well.

Besides, Prime Minister Narendra Modi's vision for a clean Ganga came from the cleanliness programmes which did wonders for rivers like the Rhine and the Thames. But it needs to be highlighted that these two rivers are much smaller than the size of the mighty Ganga. Moreover, the population of Germany and France is miniscule as compared to that of India, which again puts this rejuvenation project on the back foot (The New Yorker, 25th July, 2016).

Indian Masses : Careless and Carefree : But this blame game is what we have been playing since time immemorial ignoring the fact that we as active citizens of this country; too, have failed to confront this labyrinthine problem. It is foolhardy to place the entire sack of blame on the government and then expect nostrum from the ministers and the concerned authorities as through they could perform miracles. Religion has a hardwired connection with the river Ganga, which turns, even the most educated and civilized blind and deaf. Today, not even a devotee denies the plight of the Ganges but, time and again, it fails to articulate this understanding towards action. We share a filial bond with the divine river Ganga and thus, it is our duty to make moves and nudge others from their deep sleep. It always takes two to tango, so we need to perform our share of duties and cooperate with the authorities. Rejuvenating the Ganga is a herculean task, which requires us to be equally conscious, collaborative and foster a comprehensive mentality because, if not, then maybe our 'Mother Ganga' will run out of her maternal love, both literally and metaphorically.

Findings :

- We found that a majority of people do connect the river with religion.
- A majority of people also agreed that the Ganga suffers due to the constant tussle between the state and the, central government.
- A majority of people concurred that the aquatic life is facing consequences of river pollution and the conservation programs are primarily focused on the forest wildlife.
- We came to know about the presence of chemical pollutants and deteriorating condition of aquatic life in the river.

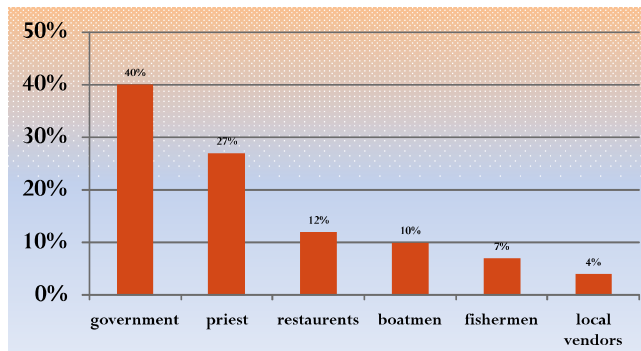
Suggestions :

- Sewage treatment plant should be installed in every city and that too, of required capacity.
- Old methodologies should be replaced with modern and foreign expertise to accelerate the speed of ongoing projects.
- At the end, nothing would happen if human consciousness is absent. So, we the commoners need to take personal steps, too, to curb the present problem.

Conclusion :

- We must not let our success and development destroy our ecosystem.
- People need to understand the importance of river in other fields as well, the way they do when it comes to religion.
- If pollution graph of the Ganga keeps on elevating at the current rate, soon it would become a giant open sewer.
- The 'Namami Gange' project has no doubt created a lot of buzz but with the current pace it would take forever to clean the river.
- Participation of masses is essential in changing the present scenario.

LIST OF FIGURES

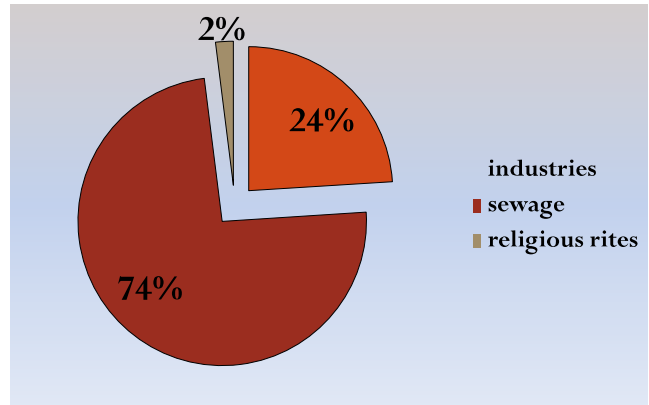


Source : On the basis of our analysis

Fig. 1. Economic dependency of different sectors on Ganga



Fig. 2.



Source : Based on our interview with Vikash Chandra on 22nd September

Fig. 3.

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