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## Ganga Pollution – A Threat to Society

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**Abstract :** *River Ganga has great religious significance but, its physical state has left a lot to be desired, due to its constantly falling level of purity, especially along the Patna region. This is due to streams of untreated waste, chemical wastes, idol immersion as well as human and animal remains, finding their way into the river. In the capital area alone, there are six major drains, which carry untreated water directly into the river. The increase in the pollution level has led to an increase in skin disease of people taking a dip in the Ganga. A comprehensive solution to the Ganga Pollution lies in dealing with 3 problem areas: first, finding water to dilute and*

*assimilate waste, second, finding innovative ways to check the growing amount of untreated sewage discharge into the river; and third, to stop industries from discharging waste in to this river.*

**Key Words:** *Ganga, pollution, threat, religious significance.*

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### Introduction :

The Ganges, also known as Ganga, is a trans-boundary river in Asia, which flows through the nations of India and Bangladesh. The 2,525 km (1,569 miles) river rises in the western Himalayas in the Indian State of Uttarakhand and flows south and east through the Gangetic Plain of North India. The Ganga is the most sacred river to Hindus. It is also a lifeline to millions of Indians who live along its course and depend on it for their daily needs. It is worshipped in Hinduism as the Goddess Ganga. The 2,525 km (1,569 mile) river rises in the western Himalayas in the Indian State of Uttarakhand and flows south and east through the Gangetic Plain of North India. The total area of the Ganga Basin in India is 861,404 sq.km., which accounts for 26.3 percent of the country. The total length of the Ganga in Bihar is 445 km. According to a World Bank Sponsored Study, "State of Environment Report"

(Mallikarjun, 2003), the pollution levels in the Ganga are contributing a large part of the total disease burden in India.

The coliform bacteria levels are in excess of 2 lakh MPN, as against the national water quality standard of 5000 (Mallikarjun, 2003). The report estimated total health damage on account of water pollution in up to around 6.4 million daily (Disability Adjusted Life Year). Barret (2008) in his book, 'Death and Healing of Northern India', says, "Pollution in the Ganga is like oil in water." Polluted waters are turbid, unpleasant, bad smelling, unfit for drinking, bathing and washing or other purposes. They are harmful and are a vehicle of many diseases. There are many causes for River Ganga pollution. The main cause of Water Pollution in the Ganga is the increase in population density, various human activities and dumping of various harmful industrial waste into the river. Millet, in his book, "River of Life, River of Death The Ganges and India's Future" (Millet, 2016), is optimistic about the Ganga's future. The Ganga has Pollution problems but it is not a dead river.

The chief sources of pollution are-

1. Sewage and other wastes.
2. Industrial effluents.
3. Agricultural discharge.

The various ways suggested for control of water pollution are as follows:

- I. Stabilisation of the ecosystem
- II. Reutilisation and recycling of waste
- III. Removal of pollutants

Various clean-up efforts of the Ganga:

- Ganga Mahasabha
- Ganges Action Plan
- National River Ganga Basin Authority (NRGBA)
- NamamiGange Programme
- Ganga Manthan

About 2 Million Hindus bathe in the river every day. During religious ceremonies, upto a 100 million people cleanse their sins away in the Ganga River. They believe that bathing in the river will make them pure. In addition 1000 bodies are cremated near the river. The ashes are often released into the Ganges. The river flows through 30 cities with a population of over 100,000 each.

Everyday, 3 billion litres of untreated water from these big cities pass into the Ganges River, along with remains of animals.

### **Significance of the Study :**

The Pollution of the Ganges (or Ganga), the largest river in India, poses significant threats to human health and the larger environment. Today, the Ganges is considered to be the fifth most polluted river in the world. However, pollution has been an old and continuous process in the river as, by the time people were finally speaking of the Ganges as polluted, stretches of over 600km were essentially ecologically a dead zone.

A number of initiatives have been undertaken to clean the river but failed to deliver desired results. In Bihar, the capital city of Patna, throws out 100 miles of waste water into the Ganga.

A study, conducted by the National Cancer Registry Programme (NCRP) under the Indian Council of Medical Research in 2012, suggested that, "those living along its bank in Bihar are more prone to Cancer than anywhere else in the country."

### **Objectives :**

The main objectives are as follows:-

1. To find out the ways to check the increasing pollution level in the River Ganga.
2. To find the causes of the Ganga Pollution.
3. To find out about the sewerage treatment plant located in Patna.
4. To find out types of garbage dumped in the Ganga.
5. To draw the attention of the government and people towards the deteriorating condition of the River Ganga.
6. To create awareness among the people regarding the cleanliness of ghats and the sewerage treatment facilities.

### **Hypotheses :**

1. Pollution in the Ganga creates health problems.
2. Bad sewerage is a major cause of the Ganga Pollution.
3. Pollution of the Ganga is positively correlated with garbage dumping.

**Methodology :**

Research methodology is a way to systematically solve the research problems. In this research work, both qualitative and quantitative methods have been used for the study.

During the field work, various aspects of pollution in the Ganga were studied and data was collected. In this research work, areas of data collection, were :

- Kali Ghat (Patna)
- NIT Ghat (Patna)
- Gandhi Ghat (Patna)

Individuals residing in the above mentioned areas were sample units of the research. Sample size was 50 and sampling method was purposive sampling. Research tool Interview - Schedule was used for data collection.

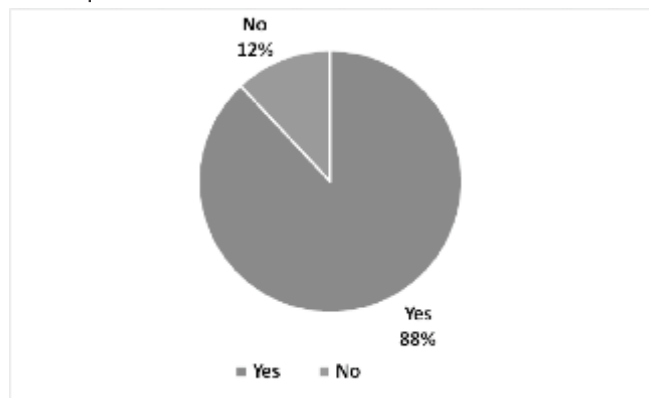
The respondents were minutely interviewed about the problems, causes and effects of Ganga pollution and various diseases suffered by the people living along the river bank. On this basis, data has been collected.

A set of structured questions was being prepared and the respondents interviewed. This schedule was constructed to get an insight into the deteriorating condition of the River Ganga.

**Results and Discussion :**

The research work entitled, “Ganga pollution – A Threat to Society”, with special reference to Patna) has been carried out on the basis of empirical study. The information or data collected from the respondents has been carefully analysed. Data analysis has been represented with the help of pie charts and tabular presentation.

**Hypothesis No. 1.** Pollution in the Ganga creates health problems.



**Fig. 1. showing ‘water pollution leading to increase in number of diseases.’**

**Explanation:**

For the analysis of the first hypothesis, first we found out that the people living in the area near the ghats suffer from various diseases, especially stomach flu (gastroenteritis), due to the consumption of polluted water from the river or from any other source.

Figure no.1: It explains that 88% of the respondents feel that the pollution in the Ganga obviously leads to increase in the number of diseases in Patna region, especially among the people who live near the river. 12% of the respondents feel that, not only Ganga pollution but many other factors lead to the increase in the number of diseases.

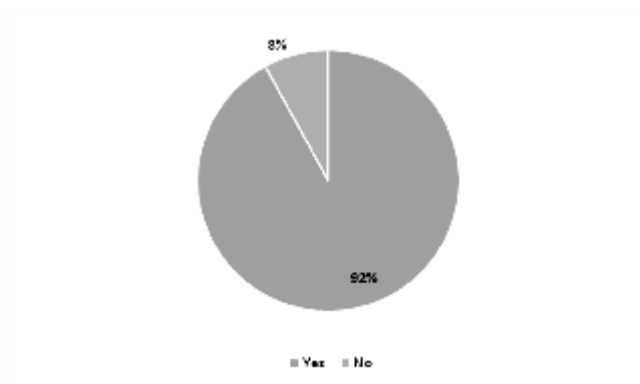
From the analysis that we have done, it can be concluded that pollution in the Ganga, due to various factors, leads to increase in the number of diseases. Thus, it supports the hypothesis no. 1.

**Hypothesis No. 2.** Bad sewerage is one of the important causes of Ganga Pollution.

Is pollution in the Ganga related to bad sewerage facility in Patna?

No. of respondents who said ‘Yes’	No. of respondents who said ‘No’
46	4

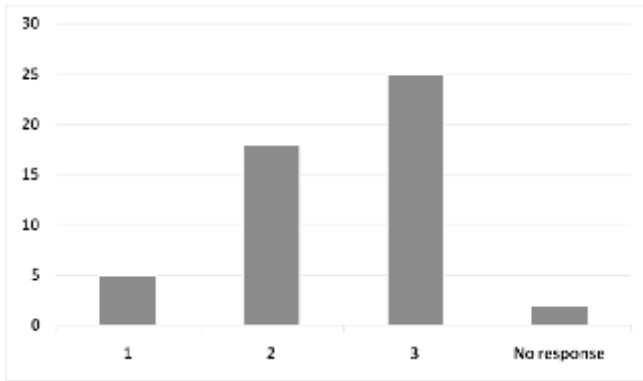
\*Note: Total no. of respondents is 50



**Fig. 2. Showing condition of sewerage in the Patna region**

Fig. 2. Shows that 92% of the respondents feel that the condition of sewerage in the Patna region is bad. The polluted water without being treated, is drained in the Ganga that is the major cause of pollution. Only 8%

of the respondents think that bad sewerage is not the major cause of pollution in the Ganga.



**Fig. 3. Showing the number of responses received about sewerage treatment plants**

How many sewerage treatment plants are there in Patna?

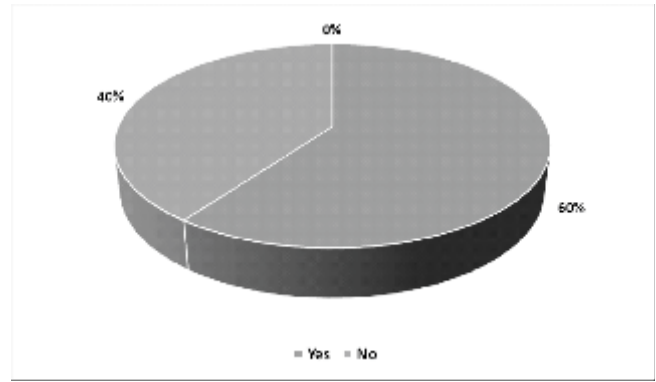
**Table 1. Table showing the no. of responses received about sewerage treatment plants**

Serial No.	No. of plants	Responses
1.	1	5
2.	2	18
3.	3	25
4.	No response	2

Fig. 3 and Table 1. It explains the awareness of people regarding the sewerage facility in Patna region. 25 of the respondents know about the actual number of sewerage treatment plants present in the area. But, at the same time, 2 respondents do not even know about the existence of such plants. Thus, we may conclude that there is a need of awareness so that people know about the increasing pollution Ganga and also the measures required to be taken by the people to clean the Ganga.

Combined result of Figure No.2 and 3 and Table 1 proves that bad sewerage and lack of sewerage treatment facility result is impure water in Ganga. Thus it supports Hypothesis no.2.

**Hypothesis No. 3.** Pollution of the Ganga is positively correlated with garbage dumping.



**Fig. 3. Showing respondents have dumped waste in Ganga**

Have you ever dumped any waste in Ganga?

No. of respondents who said 'Yes'	No. of respondents who said 'No'
30	20

Fig. 3. In order to analyze the Hypothesis No.3, the respondents were interviewed. And on the basis of their responses, the data has been computed. The table shows that out of 50 samples 60% of the respondents have dumped waste in Ganga mainly due to religious and traditional causes. The rest 40% have sometimes dumped waste in Ganga but now they are aware and hence they stopped dumping wastes in the river.

On the basis of interpretation, it may be said that most of the people still dump waste in Ganga. Thus Hypothesis No.3 has been proved.

**Findings :**

Some important findings of the research survey are as follows:-

- River Ganga is one of the most polluted rivers in Patna region.
- Traditional and Religious causes are the most significant factors of pollution in River Ganga.
- Due to lack of awareness and also due to traditional and religious factors, Ganga is losing its purity.
- Due to absence of toilets and washrooms, most of the people depend upon the river for their basic needs. People also wash their

clothes and take bath which also affect the level of pollution in Ganga.

- Most of the people throw wastes, immerse idols etc. whenever they visit various ghats.
- During the interview session some of our respondents knew that there are various governmental and non-governmental organisations working for the cleanliness of the Ganga but these organisations rarely showed up, although they get fame and funds for the cleanliness of Ganga.
- Lack of awareness among people is leading to the worsening condition of Ganga day by day.
- Improved Sewerage facility in Patna can improve the condition of Ganga to some extent.

#### **Conclusion :**

The pollution crisis in the Ganges River will never be fully resolved. Pollution level is so high that it would require an extreme amount of time and money to properly clean the river. In fact, the amount of pollution will continue to rise as the country becomes more developed, population continues to rise and more industries and factories are placed along the river.

It is important to target the main source of pollution and take measures to control them.

#### **Suggestions :**

The research report conducted on, “Ganga Pollution-A Threat to Society” in Patna, highlights the various aspects of pollution, keeping in mind the deteriorating condition of the Ganga, Certain suggestions can be given. They are as follows:-

- Ganga Act should be passed to punish the people who throw untreated industrial, household and other wastes into the river without permission.
- A special marine police force should be deployed at Ganga basins and other rivers to keep an eye on activities to pollute the rivers and punish the culprits by charging them fines.

- Cameras on banks/ ghats to catch the people throwing waste into a Ganga.
- Education and awareness among the people is the best way to get to the solution of a problem.
- Awareness programmes should be held in the area close to the Ganga.
- By placing posters, banners etc. on Ganga banks telling about pollution and its effects.
- Plant more and more trees to prevent rain water flowing into river

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