

# Election 2019: Ganga More Polluted Than Ever As Modi Govt Uses Wrong Technology, Says Leading Expert

V.N. Mishra, IIT professor and the chief priest of the Sankat Mochan Hanuman temple, says the Modi government has failed to clean the Ganga.



**VARANASI, Uttar Pradesh** — Four years after Prime Minister Narendra Modi allocated Rs. 20,000 crore for the Namami Gange project, Vishwambhar Nath Mishra, a leading expert on the Ganga, says the Modi government's half-hearted efforts to clean the river have not yielded results and the river is dirtier than ever before.

Mishra, an electronics engineering professor at the Indian Institute of Technology (BHU), is the *mahant* of the 500-year-old Sankat Mochan Hanuman temple, where 17th century poet Tulsidas wrote the final chapters of the Ramcharitmanas. He also runs the Sankat Mochan Foundation, a Varanasi-based NGO, which has been trying to clean the Ganga for over three decades. His father, Veer Bhadra Mishra, who founded the NGO, was counted among Time Magazine's 'Heroes of the Planet' in 1999.

The first Ganga Action Plan was launched by the Rajiv Gandhi-led government in 1986. The second phase of the programme was initiated in 1993. In 2009, the Congress-led United Progressive Alliance government re-launched the programme under the National Ganga River Basin Authority (NGRBA). The first two phases cost Rs 938.57 crore, according to the government, while NGRBA spent Rs 1,664.73 crore till December 2015.

While filing his nomination papers for the 2014 Lok Sabha election in Varanasi, Modi had famously invoked 'Maa Ganga.' After winning, in a televised address from the banks of the river, the Bharatiya Janata Party (BJP) leader declared that Mother Ganga had chosen him to clean her. He promised to clean the river by the 150th birth anniversary of Mahatma Gandhi (2 October, 2018). Earlier this year, Union Minister Nitin Gadkari said that the Ganga would be 100% clean by March 2020. In 2018, Hindustan Times had cited Central Pollution Control Board data that said pollution levels of the river were high especially around holy sites such as Varanasi.

In an interview with HuffPost India, Mishra spoke about why the Modi government has failed to clean the river.

“You have to apply a scientific temperament along with engineering solutions. Simply praying to Ganga ji is not going to solve the problem,” he said. “Benares is dying, but you are decorating Benares. What for?”

**Benares is dying, but you are decorating Benares. What for?**

## **You are an electronics professor at IIT-BHU, head of the Sankat Mochan Foundation, and Mahant of the Sankat Mochan temple. How did that happen?**

This is a very old tradition, but what we feel is that if you are not in a position to connect to modern society then your tradition will be set aside. My father was a civil engineer and a professor at BHU. The work on Ganga ji is related to civil engineering. I'm an electronics engineer. I was fortunate to work with my father for 20 years. I'm a religious head and a technocrat. I have inherited spirituality from my family and we have worked hard to be technocrats. This is a beautiful combination. We have all the scientific data and a laboratory that constantly monitors river health and based on those parameters, we can say that the condition of Ganga is very pathetic.

## **PM Modi said that the Ganga would be clean by 2018-2019.**

The situation of Ganga has worsened. 90% of the pollution is due to the disposal of raw sewage into the river. You cannot allow even a drop of raw sewage to move into the river stream.



Varuna River in Varanasi on May 10, 2019.

## **Please explain.**

The government planners have given three different parameters for a class B river, which is only fit for bathing. The faecal coliform count should be less than 500 per 100 millilitres. The BOD (Biochemical Oxygen Demand) should be less than 300 milligrams per litre and dissolved oxygen should be five milligrams per litre.

If you move to the entry point where Ganga ji moves into the city then everything is fine. The moment she enters, we have two tributaries of the Ganga. One is Assi at the extreme south, and at the extreme north is Varuna. Varanasi is named on these two tributaries. These rivers carry 100% sewage.

Where Ganga makes an entry - at the point of the Assi river confluence - the faecal coliform count is 32 million per 100 ml. We are sitting at Tulsi Ghat, further downstream of that point.

Here, the faecal coliform count is around 90,000 per 100 ml. If you go to the midpoint, RP (Rajendra Prasad) Ghat, which is the Centre of the city, it is 40,000 per 100 ml. At the point where Varuna makes a confluence with the river, where the river is exiting the city, the faecal coliform count is 68 million per 100 ml.

For a class B river, which is fit only for bathing, according to the planners, the faecal coliform count should be 500 per 100 ml. Now, can you imagine the condition? One cannot even make a comparison.

## What about the BOD (Biochemical Oxygen Demand)?

The BOD level should be less than three milligram per litre. Here, at Tulsi Ghat, it is 9.5 or 9.8 milligram per litre. If you go further to the Varuna confluence — this figure goes up to 68 to 70 milligram per litre. If these are the things which are happening with the Ganga, you spend 20,000 crore or whatever money you want, it has got no use.

## What about Dissolved Oxygen?

Dissolved oxygen (DO) is no problem, except where these two rivers (Assi and Varuna) makes a confluence with the Ganga — the DO level is also less. Aquatic life cannot be sustained at those points.



Equipment to test the faecal coliform bacteria and the dissolved oxygen at the Sankat Mochan Foundation at Tulsi Ghat in Varanasi.

## How does one clean the Ganga?

What we are saying is that there are 33 pollution points, which are discharging raw sewage into the river — an accumulated total of 350 MLD (Millions of Litres) per day. In the first phase (of the Ganga Action Plan), we had an STP (Sewage Treatment Plant) with a capacity of 102 MLD. Under the Namami Gange project, the PM has inaugurated an STP of 140 MLD at Dinapur and one at Goithaha with a capacity of 120 MLD. The problem with the Goithaha STP is that they are not able to get the sewage, so what is to be processed? In the Dinapur STP, some 60 MLD of sewage was allowed to flow there. This is simply returning back and being dropped into the Varuna river.

## What do you mean they are not able to get the sewage at the Goithaha STP?

They are getting 10-20 MLD of sewage, which is negligible. If you are going to make an STP for 120 MLD and then get 10 or 20 MLD — I'm not sure of the exact figure — what is the meaning of it? The transport mechanism has failed.

## **What do you mean only 60 ML was allowed to flow into the Dinapur STP? It has a capacity of 140 ML.**

If things are not well-connected from all the points that is going to happen. It needs a proper interception and diversion plan. They don't have one.



Prime Minister Narendra Modi performing Ganga aarti pooja after cleaning Assi ghat on November 8, 2014 in Varanasi, India.

## **Are there concerns about the technology used in the STPs?**

The technology which they used in the first phase (of the Ganga Action Plan) was based on Activated Sludge Plant (ASP) and we know the failure of that technology is that it cannot remove faecal coliform bacteria. It happens to be the root cause of all water-borne disease. And now the same technology — a modified version which they are probably using — Sequential Batch Reactor (SBR) — the technology is the same but only the space requirement for STPs will be less. That's all. Even if they are fully operational, nothing will happen. The technology is of no use.

## **How do you know the technology is wrong?**

We have all technocrats in our Foundation. They have tested at different levels and found that this technology cannot remove faecal coliform content. They are doing something for the sake of doing it. They cannot meet the objective.

## **What is the right technology?**

The technology that we have suggested to the government is based on (AIWPS) Advanced Integrated Wastewater Pond System, which is an American patented technology. In principle, they agreed to that also, but I think the red tapism is the reason... Even during the Manmohan Singh government, when the NGRBA (National Ganga River Basin Authority) was declared, my father was a member of it. The NGRBA ordered that let Sankat Mochan Foundation try out the technology at a lower scale and if it is feasible, and if it works well, then we can replicate that on the higher side. That was the commitment of the Manmohan Singh government. After that the government changed. (According to the Sankat Mochan Foundation, AIWPS units are operational at various places in the United States including four sewage treatment plants in California).

Officers from Ministry of Environment and Forestry had visited those places at that time. That was the reason we were given the pilot project in Benares. We made a DPR (Detailed Project Planning). It is with the government and they are keeping quiet. They are still sailing on the old boat — same technology, same STP — it has to fail.

The technology is of no use.

## **Union Minister Nitin Gadkari extended the deadline for cleaning the Ganga till 2020.**

If you keep on changing the goalpost, what is going to happen? He is not having a magical stick. We know the ground realities. The kind of work that they are doing, they can keep doing it for another 100-200 years, and nothing is going to happen.

## **Was Modi's promise of cleaning the Ganga by 2019 realistic to begin with?**

I don't think so. I don't think it was a realistic promise because the type of work should have three components: interception, diversion and appropriate STPs.

The point sources of pollution must be physically intercepted, diverted away from the river and treated to a level that it becomes innocuous for reuse. This is the objective given in the Ganga Action Plan. If you don't meet all these requirements, whatever arbitrary work you are doing, nothing is going to happen. Nobody is having a magical stick — if you pronounce henceforth Ganga ji is clean — that makes no difference.

**The kind of work that they are doing, they can keep doing it for another 100-200 years, and nothing is going to happen.**

## **Which government in the past thirty years has done the most to clean the Ganga?**

They are sailing on the same boat since 1986. The Rajiv Gandhi government was the opening batsman. They started the work, but the first phase also failed when they declared it was completed in 1993. Unfortunately, we lost Rajiv Gandhi, otherwise he would have realised the mistake and changed his approach. The rest of the governments — Ganga ji happens to be so important — so they are forced to tell people that we are working towards cleaning the river, we are trying hard, but if nothing is happening then what can we do? If a shop has a bad name in the market, you just change the signboard. That's what happened to the project — Ganga Action Plan Phase 1, Ganga Action Plan Plan 2. Now, they have changed the name to Namami Gange. A new company has started. They have started a dedicated ministry, Ganga Mantralaya, under the Ministry of Water Resources. This is a dedicated ministry and still the work is not being done. What else can I say?



Indian prime minister-elect Narendra Modi performs the "Ganga Puja" in Varanasi on May 17, 2014.

## **Have any steps been in the right direction?**

This government, what they are doing, it is not clear to them. All the big things they have done in the past five years — demonetisation, GST, Make in India — they are not talking about any of it in the election campaign. I think that they also feel that what they have done

was miserably wrong and they are talking about nationality, Pakistan, war, Muslim. Everyone is having to scream, “I’m a *desh-bhakt*, I’m a *desh-bhakt*.”

## Has there been any improvement with respect to the Ganga?

No. In the first phase (of the Ganga Action Plan), the discharge was 150 MLD per day and the infrastructure developed was 102 MLD. Now, the discharge is 350 MLD per day and they have installed two STPs, one with a capacity of 140 MLD and one with a capacity of 120 MLD. The 120 STP is not getting the raw sewage. So, that is dumped. In the 140 STP, 60 MLD was allowed to flow. That was also partially treated. If you are developing these kinds of STPs, then it will be a redundant system for the city whether they work or they don’t work. The condition will remain the same.

## Is it possible to clean the Ganga?

It is possible. You have to apply a scientific temperament along with engineering solutions. Simply praying to Ganga ji is not going to solve the problem.

If you have properly intercepted the sewage at the entry point, which will not allow even a drop of sewage to enter the Ganga, half the problem is over. There needs to be a proper diversion away from the river to where you have installed the STP. A new technology in the STP, an appropriate technology, which can treat the sewage to a level that it becomes innocuous for reuse. You treat it and use it for farming and other activities. If you don’t have a capacity of reusing, then you can drop it into the downstream. Every river has got a self-cleansing mechanism. What they are doing now is partially treating the sewage and dumping it in the Ganga. So, what is the Modi government doing? Throwing dust in our eyes.

**So, what is the Modi government doing? Throwing dust in our eyes.**



An sadhu walks past a sand sculpture of Prime Minister-designate Narendra Modi at the Sangam in Allahabad on May 26, 2014.

## Is the Ganga more polluted that it’s ever been?

Definitely.

## Could you explain?

This is a time dependent process. If you are not doing anything then it has to degrade day-by-day because of population load. When you start from 1986, when the Ganga Action Plan was initiated, they had installed an STP of 102 MLD. The discharge at that time was 150 MLD. As on date, the discharge is 350 MLD. What is the infrastructure that has been implemented? We have a 102 MLD STP plus two new STPs, which were inaugurated by PM Modi. One with a capacity of 140 MLD and another with a capacity of 120 MLD. What is the total — 360 MLD.

The 102 MLD STP, I know is not operational. As far as I know, when the Dinapur plant of 140 MLD was inaugurated, only 60 MLD of sewage was allowed to flow inside the plant. The sewage was half processed and returned back to Varuna. The second STP with a capacity of 120 MLD, they were only able to process 10 MLD. Go and ask them. Also, I'm telling you again, the technology which they are using does not have the capacity to remove faecal coliform bacteria. How will Ganga ji be clean? (According to the Sankat Mochan Foundation, the faecal coliform count at the Varuna-Ganga confluence was 68,00,000/100 ML on 13 April 2000, 4,80,00,000/100ML on 7 March 2018 and 6,00,00,000/100 ML on 26 April, 2019).

## **Has the Modi government failed in cleaning the Ganga?**

Definitely.

## **How would you describe Modi government's efforts to clean the Ganga?**

They have never been serious about it. Just to hide this, they are cleaning the ghats, coloring the ghats, illuminating the river bank with lights, and decorating bridges. This has nothing to do with cleaning the Ganga. This is being done just to cover their main objective, which was — *Maa Ganga ne bulaya hai* and I will clean this river. So, no one should question that. If you do question it, immediately they will say how beautiful the ghat facade is. They will say go visit in the night — you will be mesmerized. They are diverting you from the real issue. There is an ailing patient but you are not treating. Benares is dying, but you are decorating Benares. What for? **They have never been serious about it.**

## **Have you spoken to PM Modi about the cleaning of the river?**

Yes. We deliberated on Ganga ji. All that talk happened. Then, he said, we will do something. Then, he made the Ganga Mantralaya. We have written almost 10 to 15 letters to the ministry and to the PM. He never replied.

## **Letters saying?**

Letters saying '*kaam nahin ho raha hai, gadbad ho raha hai....*'

## **Why do millions love such a polluted river?**

She is the captain of all the rivers.