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# YOJANA MAGAZINE ANALYSIS

(October 2024)

(Part 2/3)

## TOPICS TO BE COVERED

### PART 1/3

- SWACHH BHARAT MISSION & ITS IMPACT ON RURAL SANITATION
- SPECIAL CAMPAIGN 4.0

### PART 2/3

- GANGA REJUVENATION & WATER CONSERVATION
- GANGA @ VARANASI

### PART 3/3

- SMART GRIDS & RENEWABLE ENERGY: POWERING RURAL SANITATION
- GANDHIJI'S PHILOSOPHY ON SWACHATA THROUGH SELF PRACTICE

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# GANGA REJUVENATION & WATER CONSERVATION

- Since the 20th century, the River Ganga has faced severe pollution and environmental degradation, necessitating urgent rejuvenation and water conservation efforts.
- The **Namami Ganga Project**, a significant initiative launched by the Government of India, aims to clean and revitalize this vital river in collaboration with NGOs, scientists, and activists.

## GANGA: THE EPICENTER OF SPIRITUAL & CULTURAL BHARAT

### Cultural and Spiritual Significance

The Ganga is not merely a river; it is a symbol of India's cultural heritage and spirituality.

- **Length:** Over **2,525 kilometers**, flowing from **Gangotri** in the Himalayas to the **Bay of Bengal**.
- **Cultural Practices:** Hosts the **Kumbh Mela**, attracting millions of devotees.
- **Spiritual Belief:** Bathing in the Ganga is believed to wash away sins and help attain **moksha** (salvation).

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## Ecological and Economic Importance

- The Ganga has a **high level of dissolved oxygen, granting it unique self-purifying properties.**
- It contributes over **40% of India's GDP and supplies nearly one-third of the nation's surface water, primarily for irrigation.**
- Despite its fertility, over **200 million people in the Ganga basin live in poverty.**

## THREATS TO SUSTAINABILITY

The river is threatened by pollution, biodiversity loss, and environmental hazards, undermining its sustainability.

### Industrialization and Pollution

#### Sources of Pollution

Industrialization along the Ganga has severely degraded water quality due to:

- Sewage discharge
- Industrial effluents
- Solid waste dumping

Poor environmental governance and inadequate infrastructure have exacerbated these issues.

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## GANGA ACTION PLAN

### Introduction and Objectives

Launched in **1986** under Prime Minister **Rajiv Gandhi**, the **Ganga Action Plan (GAP)** aimed to reduce pollution and improve water quality. Key objectives included:

- Setting up **sewage treatment plants (STPs)**
- Improving sanitation
- Controlling industrial effluents

### Achievements and Limitations

- Phase I cost **₹452 crores**, and Phase II (1993–1996) expanded to other rivers under the National River Conservation Plan.
- Despite completing **652 projects** and constructing **35 STPs**, the GAP faced challenges, including:
  - Insufficient financial resources
  - Poor collaboration and governance
  - Lack of long-term sustainability

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## NAMAMI GANGE

### Launch of Namami Gange

In **2014**, after assuming office, Prime Minister **Narendra Modi** prioritized Ganga rejuvenation.

The **Namami Gange Mission** was launched with a fourfold budget increase, making it a central sector scheme. The **National Council for River Ganga (Rejuvenation Protection and Management)** was established in **2016** to coordinate efforts.

### KEY INITIATIVES

Namami Gange focuses on several areas:

- Sewage treatment infrastructure
- River surface cleaning
- Industrial effluent monitoring
- Biodiversity restoration
- Public awareness programs
- Riverfront development
- Ganga Gram (village improvement)

#### Achievements (2015-2021)

- **815 new STPs** installed
- **116 out of 200 sewerage projects** implemented with a budget of **₹31,810 crores**
- Local community engagement through platforms like **Ganga Vichar Manch** and **Ganga Praharis**.

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## RIVERFRONT DEVELOPMENT

### Milestones

- STPs installed in key cities, such as **Varanasi**, with **seven operational plants**.
- Sustainable sanitation practices promoted alongside improved solid waste management.
- Partnerships established with institutions for biodiversity restoration.

## CHALLENGES & CRITICISMS

### Operational and Environmental Challenges

A **2017 audit** by the Comptroller and Auditor General (CAG) highlighted issues in financial management, planning, and execution of the Namami Ganga project. Additional challenges include:

- Overwhelmed STPs during monsoon rains
- Low water levels in dry months leading to increased pollution concentration.

### Industrial Pollution and Groundwater Depletion

Industries previously closed for polluting tributaries often resume operations illegally, undermining water quality. Studies indicate that groundwater flow to the Ganga has

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decreased by **50%** since the 1970s and could drop by **75%** over the next three decades without corrective measures.

## COMMON CAUSE: THE FUTURE OF GANGA REJUVENATION

### Public Involvement and Financial Needs

Restoration of the Ganga requires a multifaceted approach involving significant financial investments. The **Clean Ganga Fund** encourages public donations to support the cause. The principles of reduce, reuse, and recycle are vital in minimizing waste and pollution.

### Community Engagement

Public contributions through reduced water consumption and sustainable practices are crucial for success. Effective community involvement will bolster Ganga rejuvenation efforts.

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## **GANGA @ VARANASI**

- The **National Mission for Clean Ganga (NMCG)** is implementing initiatives in Varanasi aimed at reducing pollution in the Ganga River.
- These efforts include sewage treatment, ghat improvement, and river surface cleaning, all aligned with the **Namami Gange Programme**.
- The goal is to create a pollution-free Ganga and ensure a sustainable environment for future generations.

### **CURRENT SITUATION OF SEWAGE MANAGEMENT**

#### **Sewage Generation and Treatment Gap**

- **Sewage Generation:** Varanasi currently generates approximately **300 million liters per day (MLD)** of sewage, expected to rise to **390 MLD** by **2030**.
- **Current Treatment Capacity:** The city's **three sewage treatment plants (STPs)**—at **Dinapur, Bhagwanpur, and DLW**—only treat **102 MLD** of sewage.
- This leaves a large portion of untreated sewage flowing into the Ganga through the **Varuna and Assi rivers**.

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## EXPANSION OF SEWAGE TREATMENT FACILITY

To address the treatment shortfall, new facilities are under development:

- **140 MLD STP** at Dinapur (Japan International Cooperation Agency - JICA project)
- **120 MLD STP** at Goitha (Jawaharlal Nehru National Urban Renewal Mission - JNNURM)
- **50 MLD STP** at Ramana (Hybrid Annuity-Based PPP Model)

These initiatives will create a total sewage treatment capacity of **412 MLD**, sufficient to meet the city's demands until **2035**.

## RIVER SURFACE CLEANING & TRASH MANAGEMENT

### River Surface Cleaning Initiatives

- A critical aspect of the Ganga cleaning mission in Varanasi is removing floating waste.
- A **trash skimmer** has been operational since **April 2017** as part of the River Surface Cleaning Component of the **Namami Gange Programme**, effectively collecting **visible pollutants like plastic waste and debris**.

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## GHAT CLEANING & IMPROVEMENT

### Ghat Cleaning Under Namami Gange

- Recognizing the importance of ghats, the Government of India launched a comprehensive cleaning drive at **84 iconic and heritage ghats** in Varanasi.
- This initiative has transformed the ghats into cleaner and more appealing spaces for both locals and pilgrims.

### Community Toilet Complexes

To enhance sanitation, **153 Community Toilet Complexes** have been constructed at an estimated cost of **₹20.07 crore**.

- **Completion:** 109 toilets are operational, serving **15,000–20,000 people daily** and addressing a significant pollution source.

## EFFORTS TO CONTROL GHAT POLLUTION FROM CLOTH WASHING

### Renovation of Dhobi Ghats

Cloth-washing activities by the Dhobi community contribute to ghat pollution. To combat this:

- Ghat improvement works have been initiated at **26 locations**.

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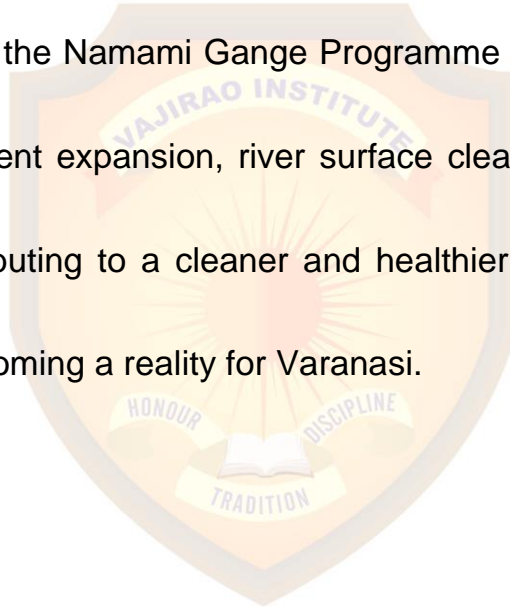
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- Four Dhobi Ghats—Pandepur, Nadesar, Bhavania Pokhran, and Konia—have been renovated, with three more under construction.

These efforts encourage the Dhobi community to adopt cleaner facilities.

## COMPREHENSIVE APPROACH

The focused approach under the Namami Gange Programme has shown visible results. The integration of sewage treatment expansion, river surface cleaning, ghat improvements, and sanitation initiatives is contributing to a cleaner and healthier Ganga. The vision of **Nirmal Ganga (clean Ganga)** is becoming a reality for Varanasi.



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