

Blended Capacity Building Programme for Stakeholders of River Ganga

06

under Namami Gange Programme

TOWARDS GANGA REJUVENATION



Indian Institute of Public Administration

New Delhi



**NAMAMI
GANGE**

OVERVIEW

NAME OF PROJECT

BLENDED CAPACITY BUILDING PROGRAM FOR STAKEHOLDERS OF RIVER GANGA

PROGRAMME

NAMAMI GANGA PROGRAMME

PREPARED FOR

NATIONAL MISSION FOR CLEAN GANGA

PREPARED BY

INDIAN INSTITUTE FOR PUBLIC ADMINISTRATION

SPECIFIC FOCUS

STUDY MODULE SERIES FOR COLLEGE STUDENTS

PROJECT TEAM

PROF. V.K. SHARMA (Project Investigator)
DR. SHYAMLI SINGH (Project Investigator)
Ms. CHARU BHANOT
Ms. KANISHKA SHARMA
Ms. IMRANA AKHTAR
Ms. KANIKA

Cover page image: A scenic view inside Parmarth niketan, Rishikesh by IIPA Team

Left image: Kevda tree in the courtyard of Forest Research Institute by IIPA team

MESSAGE DIRECTOR GENERAL



My young Companions,

“Students are the hands by which we take hold of heaven.”

The above quotation by Henry Ward Beecher has inspired me to join hands with you in rejuvenation and conservation of our holy river Ganga. I consider your role in the society and believe that your participation in this herculean task can improve the present state of our River.

To make the descent of Ganga worthwhile, you are being made a part part of the project - Blended Capacity Building Programme for Stakeholders of River Ganga under Namami Gange Programme. Ganga lies at the core of our culture and it is our firm belief that your awareness of the complex

Through this booklet, you will be taken to a journey along the Ganges and its basin. I want to create an imprint on you and mould each one of you into responsible adults. This learning process has been tailored for your effective engagement with inclusion of maps, quizzes and puzzles.

challenges faced by our national river can bring about behavioural change in the society at large.

I consider the potential of a student in contributing towards a cleaner, breathable future. It is my hope and expectation to meet with your feelings, thoughts and awareness to foster a sense of belonging for River Ganga. I have faith in your tremendous curiosity and capacity & hope that together we can change mindsets and take it to practical application.

S. N. TRIPATHI
Director General, IIPA

PREFACE

Dear Students,

Universally and religiously, water is considered a purifying natural symbol. Indian rivers, besides being the lifeline for many are considered as manifestations of the divine. They connect state to state, past to present. The Ganges is our sacred river with a culturally significant history. It is not just a river but a deity, a cleanser of sins; It is our mother.

Ganga is a part of India's rich past. It is a symbol of purity and sanctity. It occupies a central space in the collective consciousness of the country, which is why Gangajal is considered the holy water. River Ganga, not only fosters exceptionally rich biodiversity, but it also contributes heavily to the livelihood of India. .

It is unfortunate that despite the admiration and reverence invoked by the river, it has become a dumping junkyard at innumerable points. Human greed and misconduct have degraded the river quality. It is indeed a matter of concern that the river has altered its flow over the years; with that, the National Mission for Clean Ganga (NMCG) has stepped in to keep the river clean, pure and healthy for the benefit of existing and future generations. It is a matter of pride for IIPA to be entrusted by the project “Blended Capacity Building for Stakeholders of River Ganga” under the Namami Gange programme.

With the aim of conserving and rejuvenating River Ganga, This series has been prepared to make students interact with our national river. The book encompasses a holistic view of the river Ganga by posing the challenges and opportunities in and around Ganga basin.



V. K. SHARMA
Senior professor, IIPA



SHYAMLI SINGH
Assistant professor, IIPA



Above Image: Plantation Activities by Nehru Yuva Kendra Utrakhand

REJUVENATION OF RIVER GANGA

The Ganga River Basin is the world's most populous river basin, supporting approximately about half of India's population. As a result of the high pollutant load, high levels of water abstraction for industrial and municipal uses, and regime and river alterations caused by water resources infrastructure, the entire River System's ecological health has deteriorated. Pressing factors of population growth alongside urbanisation and modernisation reduced the water body to a waste disposal site. ⁽¹⁾ The Government of India conceded to the objective of restoring the Ganges and has undoubtedly made a significant improvement in its execution of plans to address the issues pertaining to the River. A critical analysis of the factors and a clear cut reflection on the schemes sheds light on the shortcomings of the approaches. India has had the necessary environmental legislation for the protection of water resources since the enactment of the Water Act, 1974. ⁽²⁾ However, enforcement of a River restoration program was chronically deficient due to the challenges.

- NGRBA: National Ganga River Basin Authority
- GAP: Ganga Action Plan
- NRCP: National River Conservation Plan
- CGA: Clean Ganga Act
- NRCD: National River Conservation
- MoWR Ministry of Water Resources
- RD: River Development
- GR: Ganga Rejuvenation
- NGRBP: National Ganga River Basin Plan
- NMCG: National Mission for Clean Ganga

TO KNOW MORE



SCAN CODES

"The Waters are Nature's storehouse in which she locks up her wonders."

– Isaac Waltonta



Above Image: Challenges faced by River Restoration Programmes Team

Since the Ganges is a perfect example of under stress water resources in urbanized basins. It thus becomes crucial to learn from the evolution of policies of River Ganga restoration in order to detect successes and flaws in the River restoration programmes. ⁽³⁾

Despite the hurdles faced in the face of River Restoration Programmes, the Government of India, has made a tremendous shift in its approach to rejuvenate River Ganga over the last three decades. It all began in 1985, when environmental lawyer, M.C. Mehta filed a PIL in the Supreme Court of India holding the government and industries responsible for the alarming rise in pollution in the Ganges. The government then made it essential to focus on controlling pollution in the Ganges and its tributaries, for which, the Department of Environment created Central Ganga Authority (CGA) which then developed the Ganga Action Plan (GAP).

GANGA ACTION PLAN (GAP)

The objective, at the time of launching the Ganga Action Plan in 1985 was to bring the water quality of the Ganga up to acceptable levels by preventing pollutants from reaching the river. These institutions were established at all levels, including the central government, state governments, and local governments, to ensure the efficient execution of the GAP. ⁽⁴⁾

GAP Phase I was extended to GAP II in 1993, the expansion of which covered Yamuna, Damodar and Gomati Rivers and the big cities along these Ganga tributaries. However, discrepancies were still found GAP targets were not met entirely.

As evident through the critical analysis, the shortcomings of GAP outweighed its strengths. It was concluded that the GAP could not practically achieve the ideal of River basin management. Reflecting on this, GOI expanded the program to include all major rivers in India

STRENGTHS

- Initial vision
- Institutional Infrastructure
- Peer review and monitoring by numerous stakeholders
- Water quality monitoring by independent agencies
- Payment of operations and management by state-governments and ULBs

Above Image: Strengths, Critical Analysis of GAP

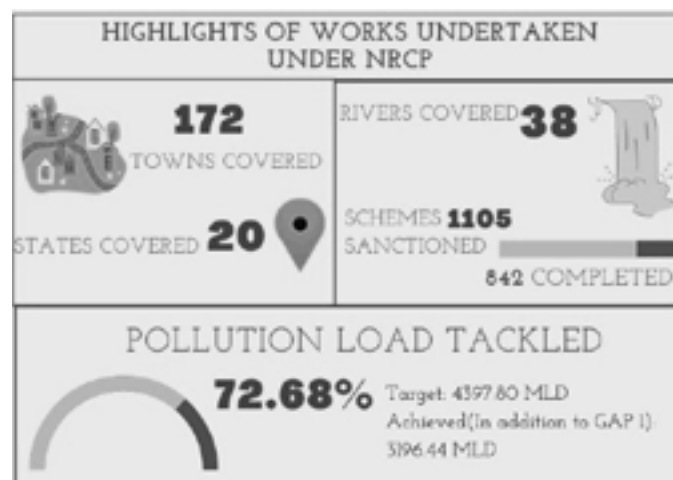
WEAKNESS

- Limited scope of issues addressed
- Inadequacy of standards for assessing water quality
- Inappropriate choices of treatment technologies
- Partial coverage in collection, coverage and treatment of sewage across cities
- Overdesigned Sewage treatment plants
- Unclear, unreliable finance models
- Irregular maintenance
- Negligence of monitoring other aspects other than River quality
- Failure in establishing Citizen's Monitoring Committees
- Inordinate delays in implementation
- Inadequate operation and maintenance of the assets

Above Image: Weakness, Critical Analysis of GAP

NATIONAL RIVER CONSERVATION PLAN (NRCP)

GAP Phase- II was merged with NRCP in 1996 which was initially launched in 1995. It covered 20 states to work on polluted stretches of various rivers. The program gave a wide coverage to 172 towns. NRCP was converted into a 100% centrally funded Scheme on the lines of GAP Phase -I in November 1998.⁽⁵⁾



Above Image: Highlights of NRCP

Despite the improvement in implementation and design, NRCP lacked on the following points:

1. Resources available were much less
2. Funds allocated were insufficient
3. Absence of a comprehensive sewerage system
4. Lack of a holistic approach to conserve lakes
5. Absence of public participation
6. Missed out on project appraisal by independent institutions
7. Lack of third-party inspection
8. Insufficient city level citizen committees

After coming across the challenges of NRCP, the meeting of the National River Conservation Authority held under the chairmanship of then Prime Minister of India in March 2001 led to the decision of adopting a better and an integrated approach for the river cleaning programmes.



NATIONAL GANGA RIVER BASIN AUTHORITY (NGRBA)

In 2008, River Ganga was declared as the national river by PM Manmohan Singh. To achieve the previously established objectives of the Ganga Action Plan, a setup of National Ganga River Basin Authority was laid out in the same year, in November. For this, a \$1 billion loan from the World Bank was approved in 2011 for effective water resources management. This was the first initiative in India for environmental protection that was designed at basin-level. By inclusion of civil society in the new approach, the ordinary citizens were given a space to pool local knowledge about the river and to work on the opportunities in planning and adaptive management process. The planning was basin level, inclusive of public participation.

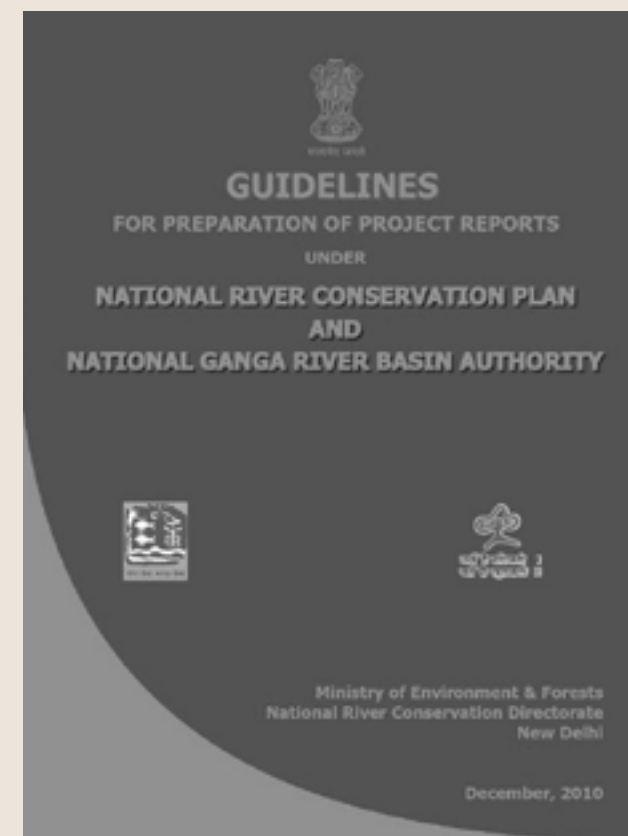
In 2009, the Central Government decided to set up a 'National Ganga River Basin Authority' under the Environment (Protection) Act, 1986, to empower planning, financing, monitoring and coordinating authority pertaining to River Ganga. NGRBA was thus constituted in February 2009 to exclusively take up works for conservation of Ganga in a comprehensive manner.

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The Authority's goal is to ensure effective pollution abatement and protection of the Ganga River by using a comprehensive approach with the river basin as the planning unit. The Authority's responsibilities include all measures necessary for the planning and implementation of pollution-reduction programmes in the Ganga that are consistent with long-term development goals, resin acids, and the derivatives of the fluid suspended solids.

Prime Minister Narendra Modi drew attention to the issue in May 2014 when he pledged to rejuvenate the river Ganga under his leadership. The Ministry of Water Resources (MWR) amalgamated with the National Ganga River Basin Authority (NGRBA) to form the Ministry of Water Resources, River Development, and Ganga Rejuvenation.

By the agreement of multiple ministries and members of Ganga clean-up missions, a new platform called NMCG was developed. The Union Cabinet approved a budget of approximately US\$ 3 billion over the first five years in 2015.⁽⁷⁾



Above Image: Guidelines for preparations of reports under National Ganga River Basin Authority

WHAT WAS NEW IN THIS BASIN-BASED APPROACH?

International Funding

Innovative initiatives of NRCD such as public consultation, signing of MoAs with state and ULBs, etc.

Integration with different programmes

Identification of polluted stretches by CPCB to conform a city level sanitation plan

Accommodating both new and traditional forms of knowledge to address the changing dynamics of social-ecological systems.

Enhancing stakeholder participation.

ural model of local self-governance in India (Ganga grams)

National Mission for Clean Ganga (NMCG)

National Mission for Clean Ganga (NMCG) The NMCG was registered as a society on 12 August 2011 under the Societies Registration Act 1860. It acted as implementation arm of National Ganga 7 Reply to Lok Sabha Unstarred Question No. 786 dated, 16 July 2014 River Basin Authority (NGRBA). The aims and objectives of the society were to implement the work programme of NGRBA and assist the Ministry of Environment and Forests (MoEF) in accomplishing the mandate of NGRBA. National Council for Rejuvenation, Protection and Management of Resources.

MAIN OBJECTIVES:

- To maintain environmental flows in all rivers and tributaries of Ganga River system.
- To fulfil the river's ecological, geological, socio-economic and cultural function.
- To maintain the water quality.
- Judicious usage of water and other aquatic resources.
- To enable sustainable development.
- To scrutinize all anthropogenic activities in a transparent manner.

WHAT MAKES THE ENTIRE APPROACH HOLISTIC?

In order to preserve and invigorate National River Ganga, her essential character needs to be grasped in a holistic manner. After extensive research and consultations, the "wholesomeness of National River Ganga", In order to protect and revitalize the National River Ganga, a thorough understanding of the basic character was taken consideration of. The "wholesomeness of the National River Ganga" was determined after significant research and consultations.



NAMAMI GANGE PROGRAMME



The government developed the "Namami Gange" Integrated Ganga Conservation Mission/Program under the National Ganga River Basin Authority as an umbrella programme aiming at merging past and ongoing actions, motivated by the benefits of a basin approach.

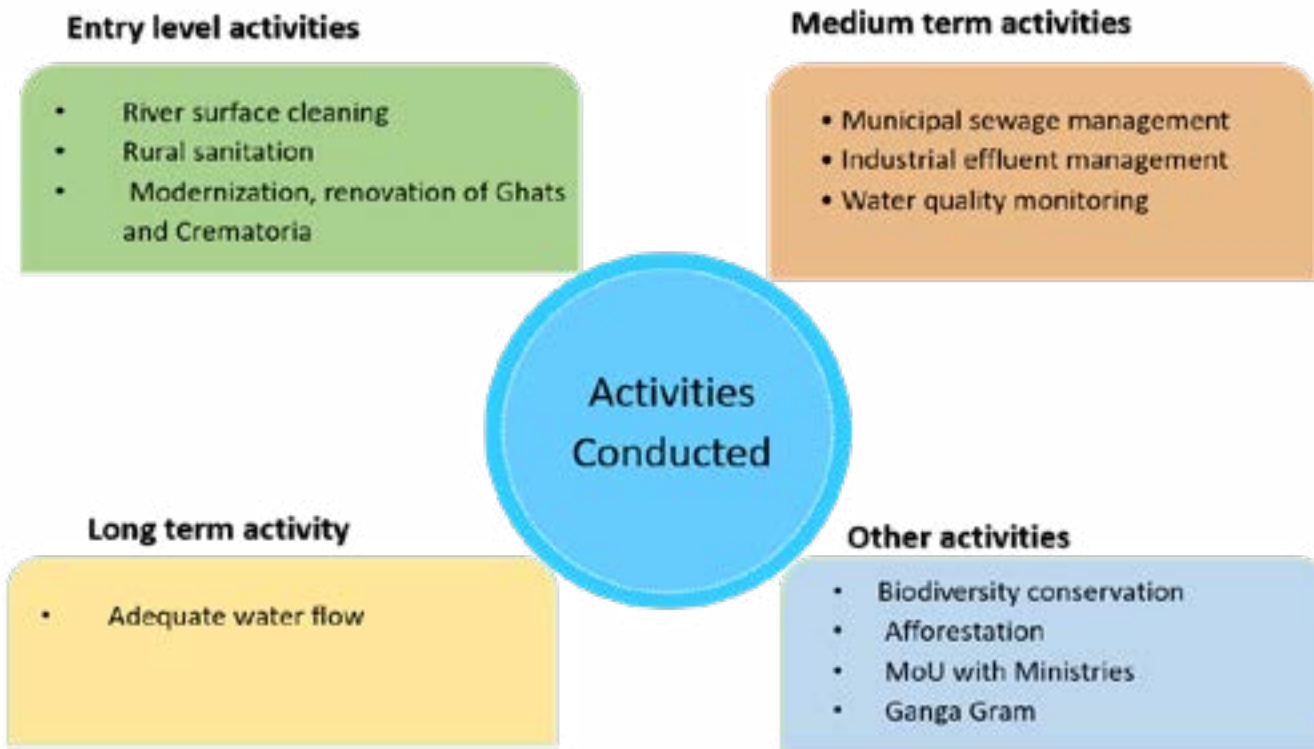
The Namami Gange programme was approved by the Cabinet as a holistic method to revive the Ganga and its tributaries under one umbrella initiative. This project was initially given a budget of Rs. 20,000 crores, for estimated expenditure of four years. This includes cash set aside for ongoing and future initiatives to clean up the Ganga.

While much of the effort to clean up the Ganga over the last 30 years, including the most recent effort under Namami Gange, has focused on increasing sewage treatment capacity in major metropolitan centres along the river, other policy interventions were also taken under this programme. In efforts to restore the river's flow it is crucial to improve the river's pollutant conveyance and diluting capacity, and measures to reduce industrial pollution are essential along with building more wastewater treatment facilities.

As a result, starting in June 2014, the key ministries of (a) Water Resources, River Development, and Ganga Rejuvenation, (b) Environment, Forest & Climate Change, (c) Urban Development, (d) Drinking Water Supply and Sanitation, (e) Rural Development, (f) Tourism, and (g) Shipping collaborated to produce a comprehensive action plan. A group of secretaries (GoS) representing various ministries met on a regular basis to develop a draft action plan, review progress, and formulate the strategy.

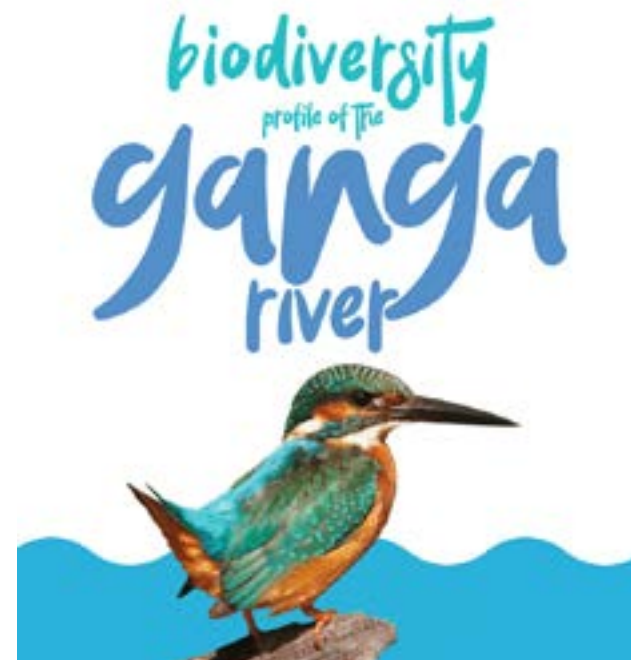
THRUST AREAS						
AVIRAL DHARA	NIRMAL DHARA	RIVER FRONT DEVELOPMENT	CAPACITY BUILDING	RESEARCH AND MONITORING	CONSERVATION OF PLANTS AND AQUATIC SPECIES	PEOPLE'S PARTICIPATION AND CREATING AWARENESS
Determine and maintain environmental flows	Upgrade existing Sewage Treatment Plants	River Front Development	Support for DPR	GIS and Spatial Planning	Afforestation drive of medicinal plants and native tree species	Ganga vahini
	Creating additional treatment capacity	Public Amenities in urban/rural centers on the river bank	Coordination between various Ministries of the Central Government and concerned State Governments	Research Projects	Conserving diversity of Gangetic aquatic life	Communication and Public Outreach activities
	Industrial pollution abatement	Ganga Task force		National Ganga Monitoring Centre		
	Development of 'Ganga Grams'		Capacity Building of ULBs, Panchayati Raj Institutions	GIS and Spatial Planning		
	Managing agricultural run-off			Ganga Institute of River Science		
	Development of model dhobhi ghats					
	Creating model cremation ghats					

PROJECTS UNDER NAMAMI GANGE MISSION COVERS SHORT TERM, MEDIUM TERM AND LONG-TERM ACTIVITIES



8 Biodiversity Centers Along Ganga for Restoration of identified priority species

- Rishikesh – Meheer Fish
- Dehradun- Knowledge Centre
- Narora- Dolphin/ Ghariyal/ Turtle
- Allahabad – Dolphin/ Fish Turtle
- Varanasi – Turtles/ Dolphins
- Bhagalpur – Dolphin/ Otter/ Turtle\
- Sahibganj – Dolphin/ Otter/ Turtle
- Barrackpore – Indian Major carps



Above Image: Johnson, Jeyaraj & Hussain, Syed Ainul & Badola, Ruchi. (2019). Biodiversity Profile of Ganga River.

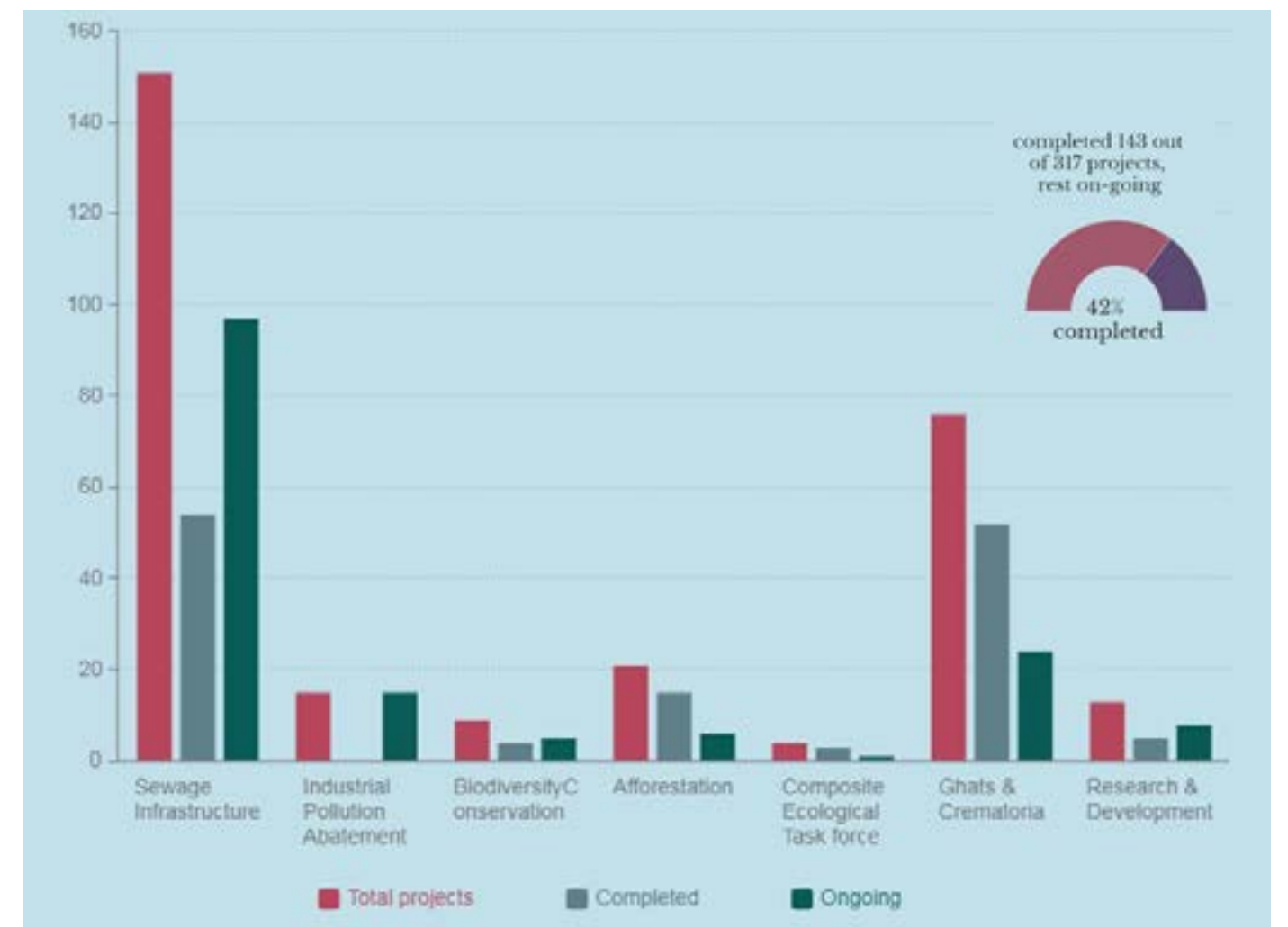
Special Activities conducted

- Environmental Literacy and Advocacy
 - Launch of Environmental Literacy Programme for Gram Panchayats
 - Environmental Literacy Centres at 352 locations
 - Distribution of 'Ganga Rahi Pukaar' book
 - Interlinking of institutions along Ganga as Green Ganga Institution
- SahiFasal Campaign organized in Punjab, New Delhi, Maharashtra and Haryana
- Catch the Rain campaign to promote rain water harvesting



Above Image: National Water Mission's (NWM) campaign
Source: <http://nwm.gov.in/?q=catchtherain>

PROGRESS SO FAR



Sector	Total Projects	Sanction Cost (Cr.)	Completed	Ongoing
Sewage Infrastructure	151	23,218.02	54	97
Modular STPs Decentralized Treatment	1	410.00	0	1
River Surface Cleaning	1	33.53	0	1
Industrial Pollution Abatement	15	1,267.37	0	15
Rural Sanitation	1	1,421.26	0	1
Biodiversity Conservation	9	164.05	4	5
Afforestation	21	306.31	15	6
Bioremediation	13	242.23	0	13
Ganga knowledge Center	6	143.95	1	5
Ganga Monitoring Center	1	46.69	0	1
Research and Development	13	165.39	5	8
Ghats & Crematoria	76	1089.31	52	24
River Front Development	1	336.73	0	1
Ghats Cleaning	3	45.54	0	3
District Ganga Committee	1	2.30	0	1
Composite Ecological Task Force	4	198.50	3	1
Grand Total	317	29,091.18	134	183

Above Image: Table 2: Namami Gange Project Stats as on 30.09.2020
Source: <https://nmcg.nic.in/Newsletter/sept2020/index.html>

URBAN RIVER MANAGEMENT PLAN (URMP)

An integrated approach to manage the river and its associated elements in a city sustainably

“A unique framework, first of its kind, attempting river-centric Urban Management”

What is URMP?

It is a plan that addresses diverse and multiple aspects of river management in a holistic and systematic manner. The concept of URMP was introduced by a consortium of 7 IITs (Indian Institute of Technology) who were tasked to develop the Ganga River Basin Management Plan. As per the plan, all the 97 Class 1 towns along the main stem of the Ganga are expected to develop their own URMPs.

To support these towns, this project has developed a common framework for the URMP. The framework is quite unique because while it is generic, it still captures aspects that are specific to each town. This is pioneering piece of work in the sense that it is for the first time that such a framework (equivalent to a decision support system) has been developed to manage urban areas within a basin.

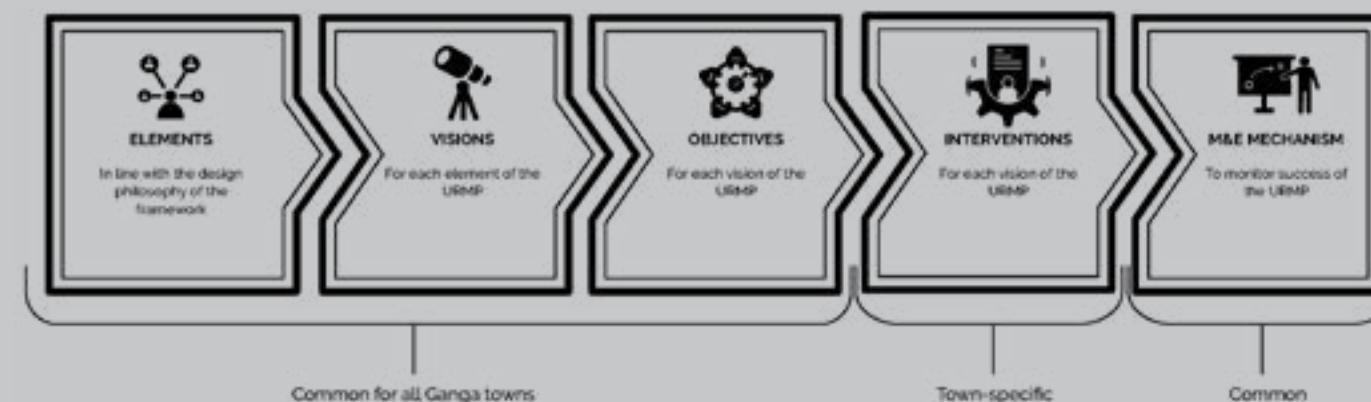
Philosophy of the Framework

The URMP framework is based on the three pillar of sustainable development—Economics, Social, and Environment. Hence, it is envisaged that the interventions carried out under the URMP will be :



Structure of the Framework

This URMP framework, with its generic part including the elements, visions, objectives, and M&E mechanism that is common for all Ganga towns, and its town-specific part comprising the interventions required to achieve the objectives, is applicable in all river towns. These towns have the flexibility to choose appropriate interventions to suit their local context in order to meet the common objectives.



FACTS

2014

In October 2014, The Supreme Court of India directed all the polluting industries along the banks of the Ganga to adhere all environmental norms and empowered National Green Tribunal (NGT) to issue orders for closing down industries not following such norms.

2016

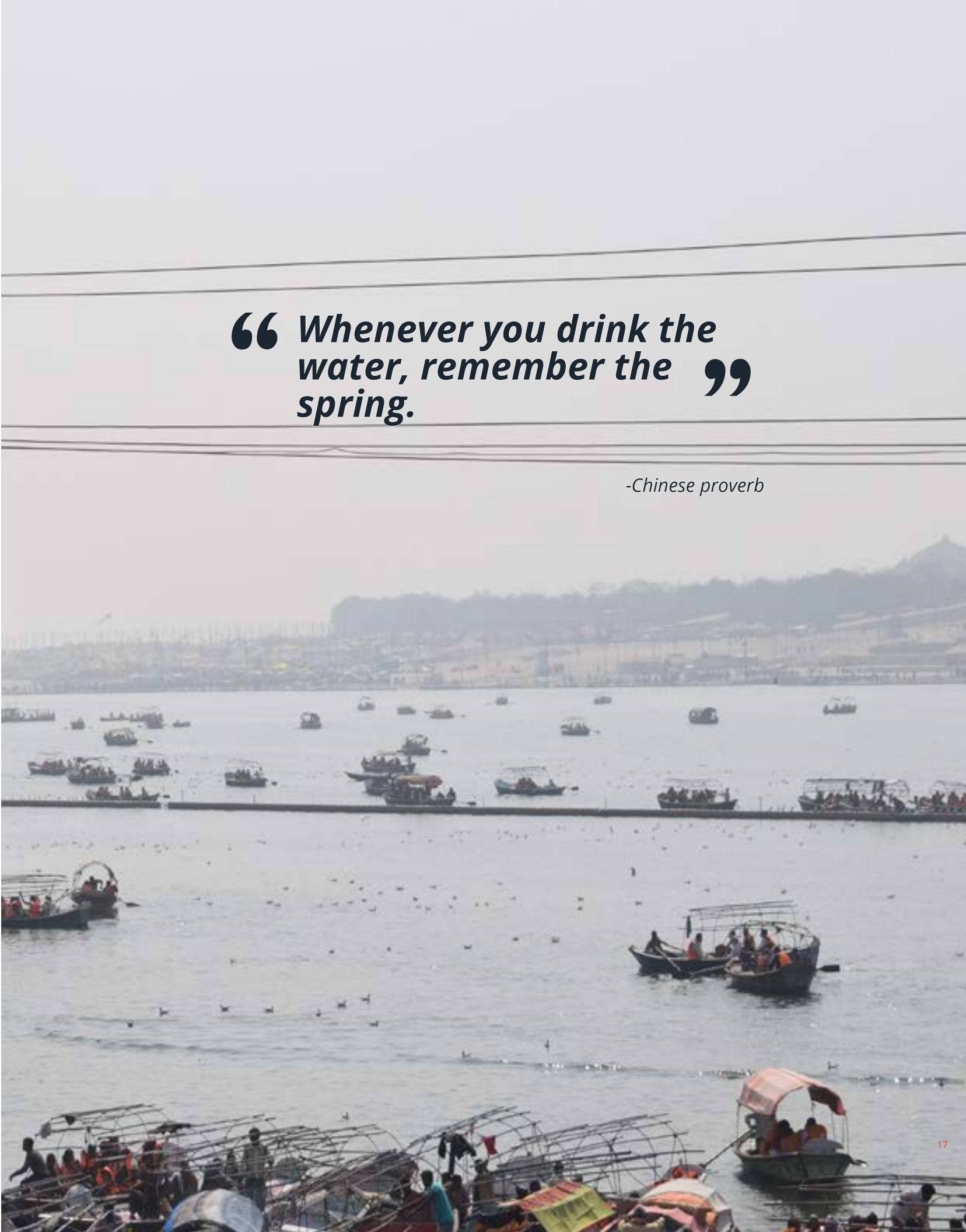
On 7th July 2016, to ensure clean water flow in the Ganga, the GOI launched 231 projects under NMCG at 100 locations in all five states through which the Ganga flows.

On 20th March 2016, the High Court of Uttarakhand declared that the Ganga has to be treated as a living human entity

On 1st Feb 2016, NGT imposed complete ban on use of plastics in the first stretch of the Ganga from Goumukh to Haridwar.

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“ Whenever you drink the water, remember the spring. ”

-Chinese proverb