



GuruJal

COLLABORATIVE . COMMITTED . CONSCIOUS

Water Management Initiative by



DISTRICT ADMINISTRATION
GURUGRAM

Supported by



A Hero MotoCorp CSR INITIATIVE

INFORMATION BROCHURE

An integrated water management initiative



COLLABORATIVE ● COMMITTED ● CONSCIOUS



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FOREWORD BY DC GURUGRAM- CHAIRMAN, *GuruJal*

Gurugram, the millennium city has been struggling with water crisis. The geographical area of Gurugram district as per 2011 Census is 1258.00 square kilometres. With more than 77% of its area as rural and under agriculture, yet no perennial river, the district is increasingly relying on the canal water from Western Yamuna Canal system for domestic use and groundwater for agricultural and commercial use.

Only about 10 percent of the agricultural area in the district is rainfed, a mighty 98.7% of the irrigated agriculture is through borewells dismally resulting in 100% of the area under the Gurugram district falling in the over-exploited zone.

There have been initiatives undertaken by various departments of the Administration be it in terms of Pond rejuvenation, rainwater harvesting structures, plantation etc. However, because of lack of adequate R&D and a holistic strategy it inevitably thus which led to failures inevitably, thus it raised the need for learning from past experiences and to understand the gravity of the situation with on-ground feedback and urgency with specifications owing to the Gurugram land and situation. Thus, GuruJal was conceived an initiative with the

objective of addressing the issues of water scarcity, ground-water depletion, flooding and stagnation of water in Gurugram. The focus is to work on improving the compliances of schemes and policies supporting water conservation, following up on better enforcement of rules and regulations, to mitigate water exploitation, extensive campaigning to sensitize people, come up with better design solutions for the current standing issues and work towards making a better policy framework for water management. It aims to collaborate with the different stakeholders of the district like corporates, civil society and research organizations to address the issue using systems thinking approach.

Therefore, Under GuruJal, Research & Analysis was done starting with the Sohna Block as it is being planned under 'South Gurgaon' in future development & urban expansion. Therefore, it was very important to understand the hydrological factors of this region for a better planning and utilization of resources.



INTRODUCTION

GuruJal Society was formulated by the District Administration Gurugram in May 2019; supported the Raman Kant Munjal Foundation (CSR initiative of Hero MotoCorp) to ensure better water management in the district. The Deputy Commissioner, Gurugram is the Chairman; and Additional Deputy Commissioner, Gurugram and Additional Commissioner, Municipal Corporation Gurugram are both Co-Vice Chairmen of the society. The District Development & Panchayat Officer Gurugram is the Member Secretary of the society.

The structure of the team consists of the PMU Unit consisting of young professionals and advisory board with advisory board members.



VISION

GuruJal's vision is to encourage social responsibility; sustainable development, lifestyle, and consumerism; protection of environment; inspiring and implementing solutions to the environmental crisis that Gurugram is facing. And our values distinguish us and guide our actions.



MISSION

To **collaborate** with 18 + government departments to ensure water conservation and efficient water management in Gurugram, work **committedly** and make citizens water **conscious** and mobilize them towards sustainability.

BACKGROUND

Gurugram witnesses high dependence on groundwater for day to day consumption and agriculture. Borewells and tube wells are common across the district. As per a report published by CGWB, there are areas in Gurugram facing 308% groundwater extraction. Due to such non-judicious consumption and no proper recharge the groundwater level is falling by almost 2-5 meters per year in the district, bringing all the blocks in the critical and exploited category.

Most of the traditionally existing water bodies in Gurugram have either been encroached or levelled in the shadow of urbanization. According to a study from Revenue Records and GIS mapping done by GMDA, the number of water bodies in the district has been reduced from 644 to 124 in the last six decades (1994 - 2019). The brighter side is there are almost 250 Johads on Panchayat land and 18 ponds in urban areas which can still be revived. To address this issue GuruJal plans to develop biodiversity zones, which will prevent the water body from future encroachment; develop green zones (parks) along the water body, which will provide area to walk; and treatment of 200 KLD of grey and black water to be provided for recharging and irrigation.

The need for water conservation related initiatives in the city arises due to the fact that the community needs to understand the consequences of their good and not so good actions. Workshops encourage the community members to create a safe city, realize the role they, and proactively take up responsibilities in order to make various processes sustainable. In addition, workshops enable people to come back to their roots and adopt scientific traditional methods all over again.





AIMS & OBJECTIVES

The aims and objectives of the society with respect to water-related issues are to research, analyze, avoid duplicity of efforts, centralize efforts, include stakeholders who design solutions that affect water, improve implementation of water management by following a holistic-collaborative-focused approach enabling inter and intra department support, monitoring of water conservation scheme compliance, make Gurugram a water conscious district, conduct campaigns and educational awareness sessions on water scarcity and restoration, conduct water-related tests, and onboarding individuals and expert organizations to fulfill the targets.

The problem areas have been identified to be different independent understanding and priorities of departments/agencies, lack of collaboration & support, ineffective citizen engagement and limited sight into the roots, as well as the urgency of issues.

Keeping the gaps and urgency of the issue in mind, Guru-Jal was envisioned with the objective of “addressing the problems of ground water depletion, water scarcity, flooding and hence water mis-management in Gurugram District of Haryana”.

ROLES & RESPONSIBILITIES

The team (consisting of Assistant Managers & Associates taking care of various verticals, Designers, Community Mobilizers, and Water Proofing Team) is responsible for facilitating partnerships and collaborations with funders, coordination with various Govt. departments, assessing and analyzing various government schemes programs and funds which can be utilized for the project, ensuring full compliance of the relevant schemes, channelizing funds and supporting officers for efficient utilization of resources, conducting extensive awareness sessions and campaigning with various stakeholders in the district, coordinating with knowledge partners and implementation agencies, selecting and suggesting partnerships to authorities, ensuring timely and quality completion of targets, maintaining a centralized institutional record of relevant data points, evaluating the timely compliance of various stakeholders, and conducting periodic review of target achievements and progress.



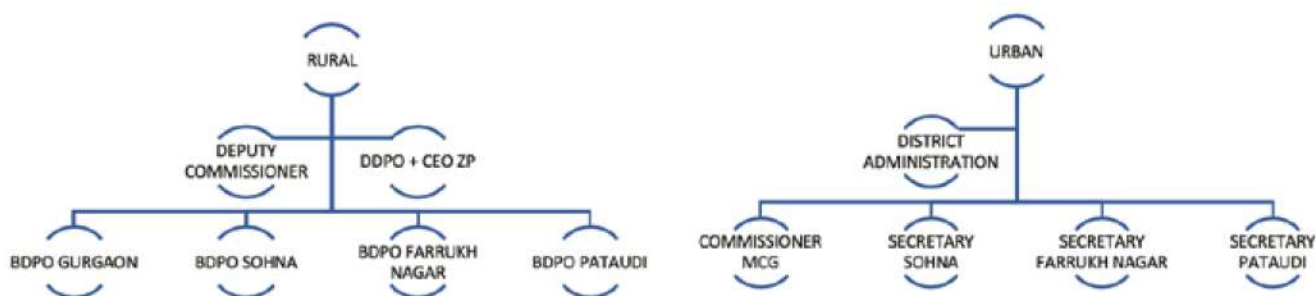
MEMBERS OF GURUJAL SOCIETY

- Deputy Commissioner, Gurugram as Chairman
- Additional Deputy Commissioner, Gurugram as Co-Vice Chairman
- Additional Commissioner, MCG as Co-Vice Chairman
- Chief Engineer (Infra II), GMDA as Member
- Director/ Principal Secretary/ Chief Scientist, HARSAC
- District Development and Panchayat Officer, Gurugram as Member Secretary
- Accountant, DITS as Treasurer /Accountant
- Program Manager, PMU Guru-Jal Nominated

- Head GIS, GMDA as Member
- District Forest Officer as Member
- Environment Advisor, GMDA as Member
- District Revenue Officer, Gurugram as Member
- District Informatics Officer, as Member
- District Agriculture Officer, Gurugram as Member
- Head of Department, District Horticulture Officer as Member
- Head of Department, Public Works Department, Gurugram as Member
- Head of Department, Haryana Shahari Vikas Pradhikaran, Gurugram as Member
- Head of Department, Fisheries Officer, Gurugram as Member
- Head of Department, District Irrigation Department as Member
- Head of Department, District Town and Country Planning, Gurugram as Member
- Head of Department, Public Health and Engineering Department, Gurugram as Member
- Head of Department, Pond Authority as Member
- Nominated Members as Members
- COO, RKMF as Member

ADVISORY BOARD MEMBERS

- Dr Fawzia Tarannum, Assistant Professor Department of Regional Water Studies TERI School of Advanced Studies
- Mr. Deep Kalra, CEO Make My Trip
- Mr. Chetan Agarwal, Senior Fellow, CEDAR & Forest & Environment Services Analyst
- Ms. Vandana Menon, Senior Design Architect, VM Architects
- Mr. Ravi Pahuja, COO, Raman Kant Munjal Foundation
- Ms. Sarika Panda, Co-founder, Raahgiri Foundation
- Ms. Sameera Satija, Founder, Crockery Bank



We coordinate between the following departments

- Agriculture
- IWMP, Department of Land Resources
- Hydrology and Soil Health
- Horticulture
- Development and Panchayat
- Revenue and Disaster Management
- Municipal Corporation, Gurugram (MCG)
- GMDA
- PWD
- Haryana Shahari Vikas Pradhikaran (HSVP)
- PHED
- Irrigation
- Pond Authority
- Forest Department
- District Rural Development Agency (DRDA)
- Haryana State Industrial and Infrastructure Development Corporation (HSIIDC)
- District Town Planner (DTP)
- Sports
- NHAI
- CEO ZP (DRDA)
- Command Area Development Authority, Haryana (CADA)
- Fisheries

GURUJAL TEAM MEMBERS

A team of young professionals who are committed towards working on water conservation and water management in the district.

INTERVENTIONS

1: CONNECT THE DROPS

We have pledged to make Gurugram a Water Conscious District and consciousness starts with awareness. Our aim is to spread awareness amongst various target groups i.e. Schools, Corporates, Government Offices, Panchayats, RWAs and Builders by doing focused workshops, giving people the right content, information, tool and supporting them to adopt more water sensitive approaches in their respective domains. We envision "Connect the Drops" as water conservation and awareness campaign, which aims to bring together diverse contributors of the society and Connect them with a single motivation i.e. to protect and preserve water.

Through Connect the Drops intervention, GuruJal intends to mobilize the community and spread awareness regarding how they can do their bit to improve the state of water, help conserve it and utilize it judiciously.

For the same workshops are planned regularly, so that, there can be interaction on ground level and hands-on training can be given.





RESIDENTIAL WELFARE ASSOCIATIONS, SOCIETIES, AND CORPORATES

To sensitize the residents about Gurugram's water crisis, daily water demand and supply, virtual water consumption, circular economy, rain water harvesting, sewage treatment plants, and plantation.

Creating awareness about depleting groundwater table, how Gurugram receives water from Yamuna river, sources of water in residential society (% from Water Tankers & % from Huda Water Supply), water storage back-up in case of no water supply from regular sources (based on per-day demand; capacity to store), rain-water harvesting facility (functional pits), role of residential society's water conservation team (if any), daily consumption of water per flat (example: 1000 litres/flat/day on an average), leakages & infrastructure related issues, and ornamental plants & the amount of water they utilize as compared to natives trees & crops.

The key learnings that are focused upon are as follows: Avoiding the problem will not solve the problem, portion of salary going for water won't matter when there is no water, maintaining circular economy is very important and can be done by giving back what is taken, what can residents can do at individual level, and ways to utilize RO's discharged water & water dripping from air conditioners.

Examples like Chennai's water crisis, day-zero in Cape Town, Africa, and Dubai's policy for water usage and wastage can be quoted to make the residents understand the gravity of the situation.

BUILDERS

To sensitize the students about ways to conserve water in their capacity. For example, closing the tap when brushing teeth, taking only as much water in the glass as they can drink, not wasting water when taking a bath, brushing teeth, or engaging with water-related activities.



GOVERNMENT OFFICERS

To sensitize the Government Officials about their roles and responsibilities, highlight the importance of regular field-visits, ways to integrate the community (especially women) through periodic meetings, emphasize on the need of WhatsApp groups for last mile connectivity, improving efficiency by following a schedule & conducting review meetings, outcomes of working with NGOs, learning from cities that have set a good example w.r.t water management issues, importance of 'taking interest' in water-related issues, working with limited resources, valuing water, replenishing water table, and treating it as public property and not private property.

PANCHAYATS

Biodiversity Management Committee was encouraged to plant native varieties, bring people together, support villagers, enable them to be open minded and share ways to save water.

FARMERS

The following points were covered in detail: Promoting Climate Smart Agriculture to modify and reorient agricultural systems to effectively support the development and guarantee food security during an ever-changing climate. Crop rotation to reduce soil erosion and increase soil fertility and crop yield. Planting native varieties to encourage naturally occurring plants in a particular region, ecosystem, or habitat without human introduction. Sensitizing the farmers about avoiding the use of chemicals and pesticides and giving them alternatives to use. Spreading awareness for micro-irrigation and diverse cropping for frequent application of small quantities of water directly above and below the soil surface; usually as discrete drops, continuous drops or tiny streams through emitters placed along a water delivery line. Drip irrigation to save water and nutrients by allowing water to drip slowly to the roots of plants, either from above the soil surface or buried below the surface. The goal is to place water directly into the root zone and minimize evaporation. Crop diversity is the variance in genetic and phenotypic characteristics of plants used in agriculture. Crop diversity loss threatens global food security, as the world's human population depends on a diminishing number of varieties of a diminishing number of crop species. Awareness around minimizing ground water use.



2 & 3: SUPPORT A POND & BIODIVERSITY MANAGEMENT



One of the major ways in which GuruJal is trying to improve the ground water level in Gurugram is by rejuvenating Johads i.e. ponds. Reason being, the number of functional and clean water Johads has drastically gone down. As a result, the rate of replenishment of water to the ground water table is not able to match the amount of water which is being extracted. Since most Johads are in rural areas the Gram Panchayat and village community is being sensitized towards pond rejuvenation, water conservation, proper waste disposal, rainwater harvesting, and need of biodiversity parks with native plant varieties that do not take up much water to grow and maintain.

Through Support a Pond & Biodiversity Management Interventions, GuruJal intends to rejuvenate and restore traditional water bodies like Johads. The same is being done by doing pond profiling, to start with, where in the following factors come into play, namely:

- Surface and ground water quality
- Ground water level
- Soil quality
- Air quality
- Contour mapping
- Demarcation of the sites

The steps involved in the same are **de-silting and cleaning** which involves the removal of earthy materials, such as sand and mud, from the bed of a fast flowing river, as these earthy deposits, over time, can lead to blockages which could cause obstructions to the free flowing movement of water which could in turn lead to flooding.

The other steps include **bio-remediation**, a process used to treat contaminated media, including water, soil and subsurface material, by altering environmental conditions to stimulate growth of microorganisms and degrade the target pollutants; **installation of micro-STP** to ensure removal of contaminants from municipal wastewater, containing mainly household sewage plus some industrial wastewater; and **landscaping** to modify the visible features of an area of land, including: living elements, such as flora or fauna.

As part of landscaping **flora fauna profiling** is done which involves making a list of native tree species, shrubs, animals, birds, reptiles, and butterflies for the region. Next plantations and their effects on the soil are studied. And lastly, the beautification of outdoor terrain which is mainly engaged in exterior works and gardening in both residential and non-residential buildings and parks through the process of planting trees, flowers, shrubs, grasses, water fountains, construction of kerbs, walkways, pavements and drainage, is done.

The idea is to assess the capacity of a specific kind of soil to function, within natural or managed ecosystem boundaries, to sustain plant and animal productivity, maintain or enhance water and air quality, and support human health and habitation.

In addition to that, this is to differentiate private land from public land by creating a boundary around a place or thing. It may also involve making a demarcation line, a temporary border between the countries.

An essential step involves **water testing**, which is used to analyse the water quality, fulfil regulatory requirements and to maintain safety. It is important because it identifies contaminants, prevents water-borne diseases and makes sure that the water is safe and meets local and international water standards. Ultimately, all water for human and animal use should be tested for safety.

Lastly, before the work starts an official document from the Panchayat, called the **Panchayat Resolution**, is given to the government stating that they are letting government use the land for biodiversity parks etcetera. Thereafter, the community is mobilized, encouraged and engaged because the community itself is ultimately responsible for and affected by environmental situations.

The entire process requires **operation & management**, for which Biodiversity Management Committee is being strengthened and individuals are being deputed from the village on payroll of the Government. Their role is to ensure the highest level of efficiency possible.

Good execution is based on the technology shortlisted, efficient civil work (design, construction, & maintenance), work allotment on the basis of the capacity of an average worker functioning in the normal working conditions,



The following parameters are taken into account when doing the pond profiling:

Site Profiling

Area, nearby area, depth, distance, population of the area, and households in the area.



Physical Details

Location, depth, parameters, area occupied, panchayat area, latitude, longitude, distance from mini secretariat, physical appearance, tehsil name, block name, village name, water source, perennial.

Technical Details

Area of Water Body (sq. m. /acre)

Depth (m)

Capacity (cubic metre)

Inlet

Outlet

On the same lines, development of biodiversity parks, is an attempt to promote biodiversity conservation, encourage urban gardens by growing plants of all types and varieties in an urban environment, promote herbal

gardens where in a separate space in the garden is devoted to growing a specific group of plants known as herbs, and create butterfly parks / gardens / aviaries, where most of the butterflies are used for educational purposes like studying butterflies' life cycle and behaviour.

Other prerequisites to getting the work to begin are admin and financial approvals.

For admin approvals, the following steps are required to be processed

1. Resolutions obtained from the Village Panchayat
2. Drone Survey on site, GIS mapping
3. On-site Demarcation
4. Land use change

Fundraising	Status	Program	Amount	Comments
RITES	Fund Sanctioned	Support A Pond	1 Cr	50,00,000 sanctioned, need to send the DPR
PowerGrid	MoU	Support A Pond	1.99 Cr	Proposal and draft MoU sent to Power Grid
SBI	Detailed Project Report	Support A Pond	1 Cr	First draft shared with SBI
IndusInd	Proposal	Support A Pond	51.85 lakh	
IDBI				
Jaguar	Detailed Project Report	Water Proofing	2.33 Cr.	Follow up required
ICICI	Detailed Project Report	Connect the Drops		Follow up required
Pan India	Proposal	Support A Pond	63.81 lakh	
HDFC	Detailed Project Report	Support A Pond	65.9 lakhs	Follow up required
LeMeridien	Proposal	Support A Pond	20 lakhs	Amount received
NHPC				
Concentrix				
IOCL				

Project	Completed	Ongoing	Yet to Start	Population Affected	Status	Litres Saved
Support A Pond Phase 1 Pond Rejuvenation	0	16	15	185300	WIP	-
Support A Pond - Phase 2 Pre - Study	28	2	-	1,50,000	WIP	-
Water- Proofing RWHs - functionality check	0	475	100	-	WIP	304 ML/yr
Water Proofing - Recharge Pits	0	33	117	-	WIP	3861 KL / yr
Connect the Drop - Public Outreach Events	319	4	3	12892	WIP	-
Biodiversity Management - Biodiversity Park	0	3	0	46,237	WIP	-
Water Proofing - Fixing Leaks and Wastage	7	6	0		WIP	approx. 500 L / day
Biodiversity Management Urban City Forest	0	4	0	12,500	WIP	-
Connect the Drop - Focussed Workshops	122	39	-	4326	WIP	-
Department Interventions					WIP	-
Community Mobilization	6	4	4	210	WIP	-



4: WATER PROOFING

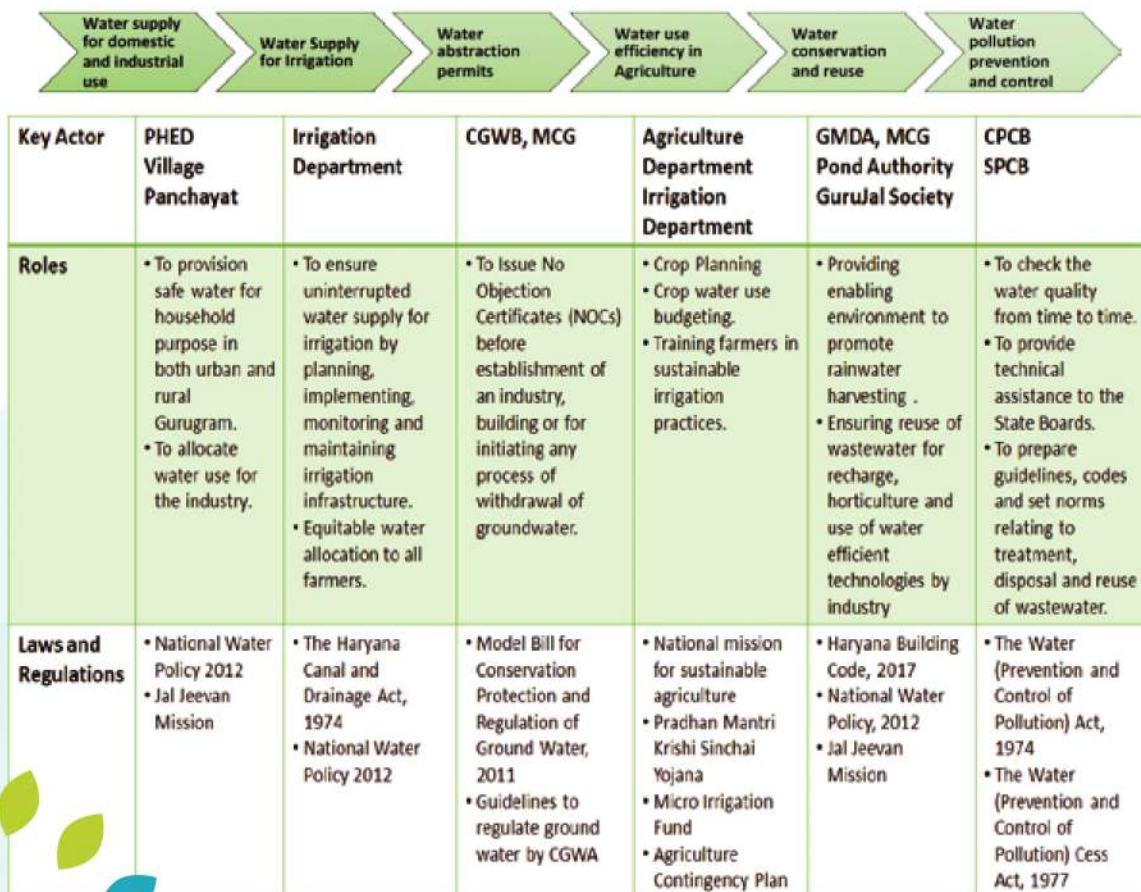


**WATER
PROOFING**
FIX THE LEAK WEEK



GuruJal is trying to bring about a change is by installing **Rainwater Harvesting Systems** in all government buildings of Gurugram district including schools in remote areas and conserving rainwater harvesting systems to recharge wells. To do the same, we have collaborated with Dr. Kiran Bedi's Navjyoti India Foundation, which is conducting workshops for school children to sensitize them towards the need to save water.

Jal Sansad is being made in every school where the workshop is being conducted in order to ensure every child of the school is participating and doing their bit. On the same lines, fixing leaking taps and using water positive retrofittings has also been highlighted as a major step towards saving significant amount of water. Government offices are also being checked for water leakages and for installation of rainwater harvesting systems, which has been made mandatory in all government buildings.





JULY

- 19 Website and helpline
- 26 District Enforcement Drive

AUGUST

Launch of **Connect The Drops** 02



WATER PROOFING 09
FIX THE LEAK WEEK

Water Treatment Expo 16

SUPPORT A POND 23

जल संरक्षण 30

SEPTEMBER

06 Connect the Drops for Builders

13 Mass Plantation

20 **Water Proofing**
(Public Spaces, RWHs and Recharge Pits)

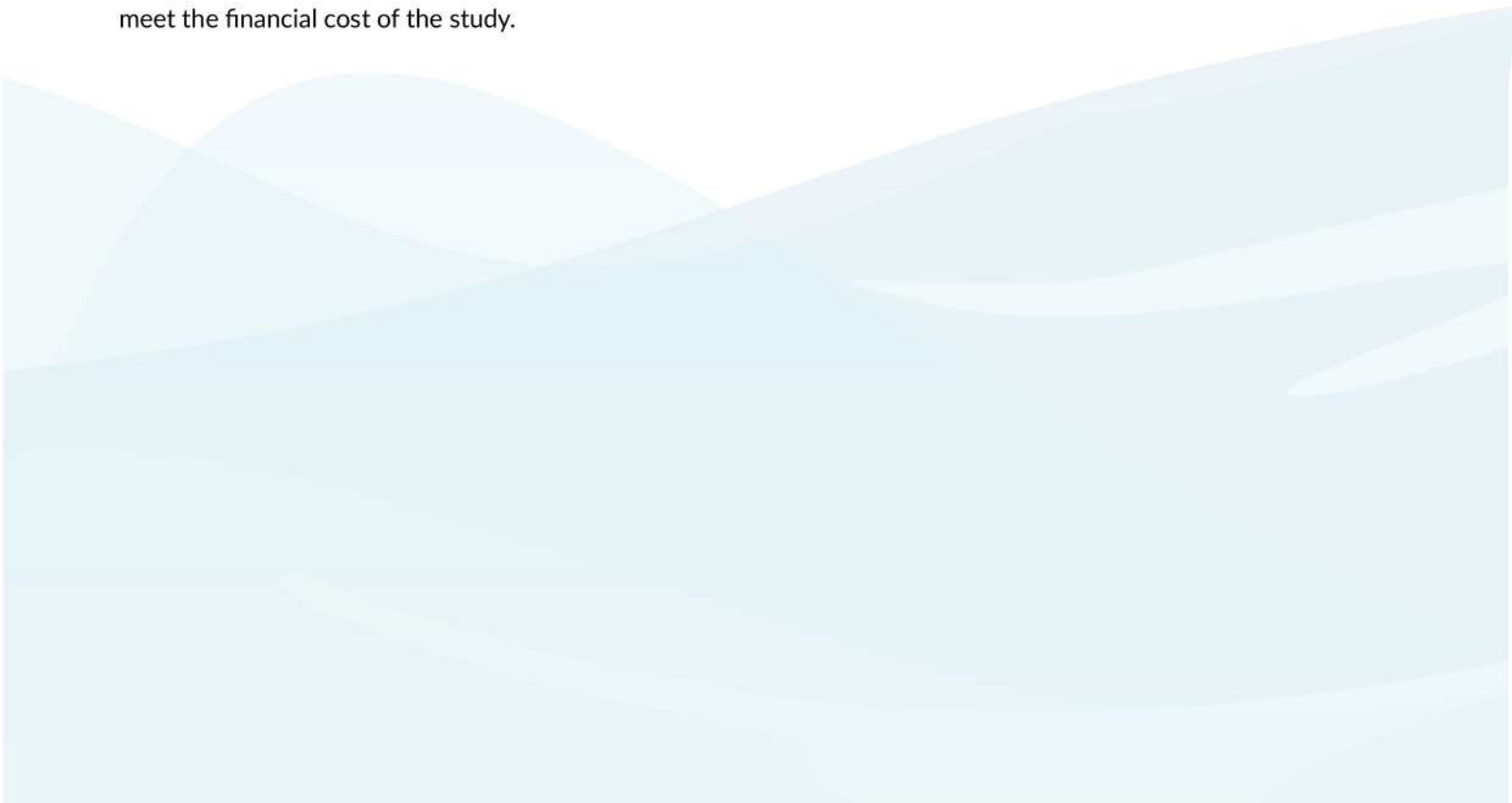
27 I Am Water Conscious



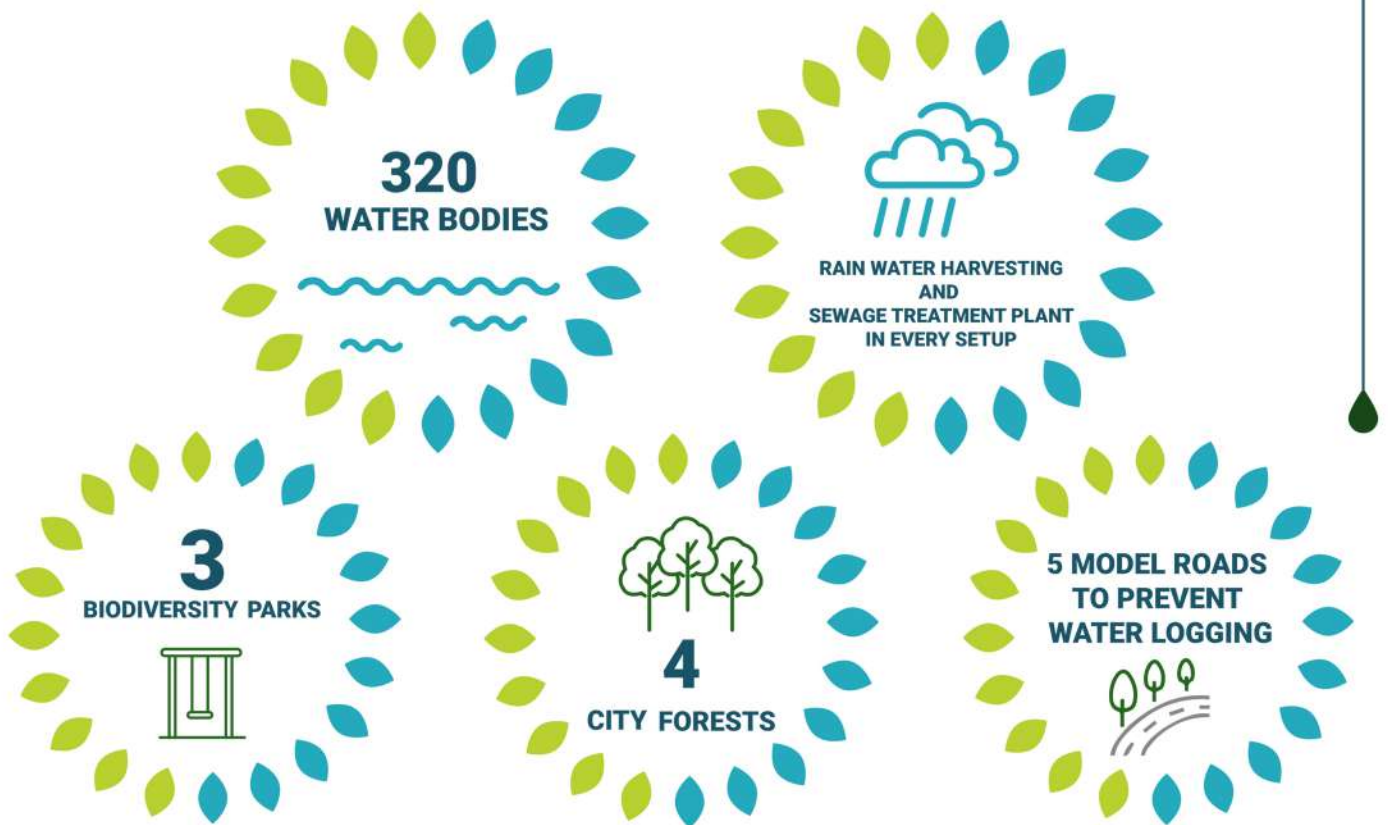


ROLE OF DAG THROUGH GURU-JAL PMU

1. Drive and guide in the study, mentioned in the scope of MoU.
2. Support TERI SAS and its resource people with the required data points and references as and when required (without bearing any other external cost)
3. Managing internal communication with stakeholders from the DAG and the field, as well as external communication with implementation partners, donors, the media, and senior leaders from the state and central governments, including project branding and information dissemination.
4. Ensuring all project branding collaterals will acknowledge donors, funding organizations, companies monetarily supporting the project under their corporate social responsibility (CSR) and that of implementing partner, Navjyoti India Foundation. This may be done by appropriate placement / positioning of logos of supporting company / companies.
5. GuruJal and its member will share all information (including pictures) with NIF which might affect the outcomes of the workshops.
6. The GuruJal and its members will raise CSR funds to meet the financial cost of the study.



GOALS



OUR SPONSOR



SUPPORTERS



KNOWLEDGE PARTNER



MEDIA PUBLICATIONS

THIS STORY IS FROM JULY 19, 2019

GuruJal project's website launched in Gurugram

Vishakha Chaman | TNN | Updated: Jul 19, 2019, 22:02 IST

✉ 📄 A- A+

Ad

Season change wali khansi ka solution!

Kofol



GURUGRAM: In order to motivate Gurugram residents for water conservation, a website and a helpline of the GuruJal project was launched on Friday by agriculture joint secretary Vivek Agarwal.



Akanksha Gupta
 05 December 2019



Photo: CitySpidey

DC calls for timebound rejuvenation of all Gurugram ponds

Gurugram: Gurugram Deputy Commissioner Amit Khatri on Wednesday directed officials of various departments to work in a planned and timebound manner for the rejuvenation of ponds under the GuruJal Project.

He said that the ponds whose rejuvenation work is underway should be completed soon. For the other ponds where the work has not yet started, he asked the officials to prepare a plan.

LETTER LIBRARY WRITE FOR US ABOUT US

Guru Jal: Making Way for Water Management through Holistic Plan and Impact

By Elets News Network
 Published August 06, 2019



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Gurugram, the Millennium city has been struggling with the water crisis. Hence, the initiative of GuruJal was taken by the District Administration of Gurugram, Government of Haryana. Ritika Srivastava of Elets News Network (ENN) writes on the water management initiatives by Guru Jal to curb the rising challenge of water scarcity through its innovative initiatives.

GuruJal project's website launched in Gurugram



In order to motivate Gurugram residents for water conservation, a website and a helpline of the GuruJal project was launched on Friday by agriculture joint secretary Vivek Agarwal.

[Read full article on Times of India](#), 5 months ago





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