gLOCAL
EVALUATION WEEK
Sharing local and global M&E knowledge

GuruJal
COLLABORATIVE . COMMITTED . CONSCIOUS

Hero we care

THEME :

OPTIMISED MODEL FOR TRANSLATING NATIONAL WATER CONSERVATION MANDATES AT A GRASS-ROOT LEVEL IN INDIA

CONVENED BY:
clear
Centers for Learning on Evaluation and Results

Flow of Contents for the Webinar

Topics of Discussion	Time Allocated
Context Setting	10 mins
Understanding why a strong water policy framework is required for water restoration in the country and suggestive measures for them be implemented on the ground sustainably.	15 mins
Introduce the water story in India with a discussion followed by measures that can be implemented for water conservation and the best practices regarding these methods.	20 mins
Various tools and methodologies developed within GuruJal for its target of restoration and rejuvenation of ponds within Gurugram District.	20 mins
The need for increasing the green cover as an active step for ecological conservation and the various factors that are directly and indirectly linked to water conservation.	20 mins
Questions and Answers	5 mins
Conclusion	5 mins

Understanding Water Mismanagement

Cherrapunji, the world's rainiest city. With an annual average rainfall of 11,777 mm (463.7 in), it has been having serious water problems in dry months for over a decade.

- HuffPost (*Prof. Asit K. Biswas, Visiting Professor at Lee Kuan Yew School of Public Policy, National University of Singapore*)

But why ?

Excess of water during monsoons causes flooding by water run-off due to blocked natural catchment areas by unregulated constructions and water scarcity in the remaining seasons due improper supplyand heavy ground water pumping from decades

Water Mismanagement – What can it lead to ?

"The focus always has been on increasing supply of water. No effort has been made to manage demand and increase efficiencies of water management" ~ Huffpost 2016

- Depletion of Ground Water
- Drought – farmer crisis
- Flooding
- Water theft
- Emergence of Water Mafias
- Loss of traditional water conservation systems
- Disturbance in the ecological balance
- Loss of local flora and fauna species
- Increase in the number of diseases
- Civil unrest

What is Day Zero?

"Day Zero", a shorthand reference for the day when the water level of the major dams supplying the City fell below 13.5 per cent. "Day Zero" would herald the start of Level 7 water restrictions, **where municipal water supplies would largely be switched off and residents would have to queue for their daily ration of water**

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SUSTAINABLE DEVELOPMENT GOALS

6 CLEAN WATER AND SANITATION

ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

GLOBALLY

2.6 BILLION
PEOPLE HAVE GAINED ACCESS TO IMPROVED DRINKING WATER SOURCES SINCE 1990

666 MILLION
PEOPLE ARE STILL WITHOUT

IN INDIA

NEARLY **18%** OF WORLD'S POPULATION BUT ONLY **4%** OF AVERAGE GLOBAL RUNOFF IN RIVERS

NEARLY **500 MILLION** PEOPLE ARE EFFECTED BY DROUGHT IN INDIA

OVER **20%** OF THE POPULATION LIVES IN STATES WHICH ARE NOT YET DECLARED OPEN DEFECATION FREE

1/5 CHILD DEATHS → DUE TO SEVERE DIARRHEA ARE IN INDIA

EACH YEAR NEARLY **102,813 CHILDREN DIE** DUE TO SEVERE DIARRHEA

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Situation of Maharashtra- acute water crisis lead to farmer suicide

बांसवाड़ा : पानी की बूंद-बूंद को मोहताज 40 परिवार, दिनभर में मिल पाता है सिर्फ दो मटकी गंदा पानी

The great Indian water crisis: 300 districts in 13 state are going thirsty

In Maharashtra and Karnataka, 33 and 27 districts are grappling with the situation respectively.

PTI | Monday, May 09, 2016 - 18:07

Maharashtra saw 12,006 farmer suicides from 2015 to 2018

From 2010 to 2014, NCRB recorded 80,904 suicides in Maharashtra, of which 8,(farmers.

MUMBAI Updated: Jan 23, 2019 15:58 IST

Surendra P Gangan
Hindustan Times, Mumbai

The real reasons behind Maharashtra's man-made drought

Image : Sutterstock

In 2012, Maharashtra declared that the drought that hit Marathwada that year was the worst of them all. A deficit in rainfall adversely affects agriculture resulting in poor output of crop, which in turn affects the financial condition of farmers. While insufficient rainfall is a reason for drought, it's not the only reason. Poor selection of crops, inefficient methods of irrigation and imbalanced use of ground and stored water also lead to drought-now commonly known as 'man-made drought'. Maharashtra has been facing this man-made drought since 2012.

#MahaDrought: Farmers Commit Suicide, Families Struggle to Find Way out

Farmers are committing suicides, as they continue to remain entangled in the vicious circle of debt, drought and damage to the crops.

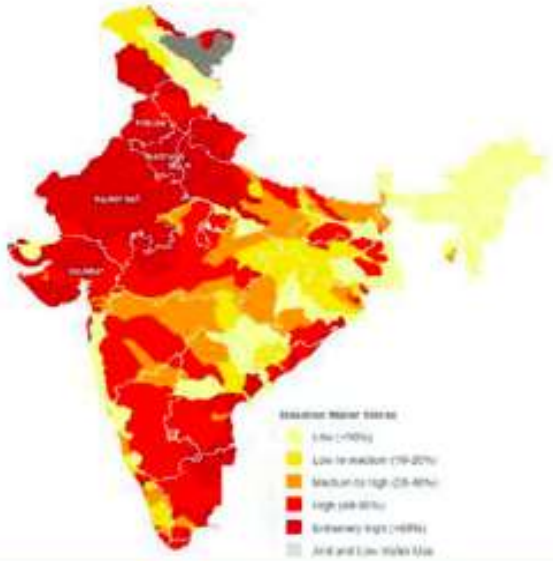
Amey Tirodkar 07 Mar 2019

India acknowledges the concern

Niti Aayog's report shows that India's water crisis is more dire than imagined

This is the first time that the government has officially acknowledged and given details of the country's water crisis.

Figure 6: Baseline water stress in India[14,15,16]
Ratio of total withdrawals and total flow (2010)



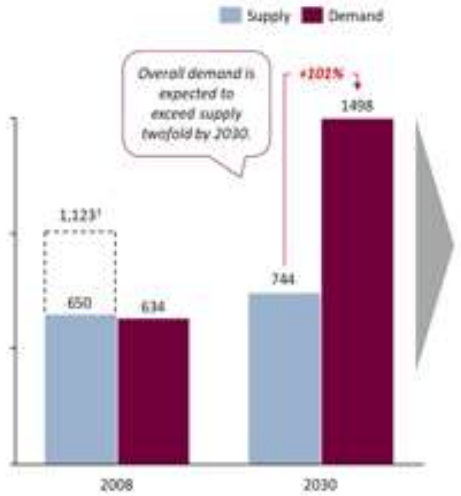
Facts: Water supply is limited, quality is poor

600 million people face high-to-extreme water stress.

75% of households do not have drinking water on premise. **84%** rural households do not have piped water access.

70% of our water is contaminated; India is currently ranked 120 among 122 countries in the water quality index.

Figure 7: Demand and supply of water in India (forecast)[20,21]
In BCM (2008, 2030)



Facts: Scarcity is on the horizon

40% of the population will have no access to drinking water by 2030.

21 cities, including New Delhi, Bengaluru, Chennai, and Hyderabad, will run out of groundwater by 2020, affecting **100 million** people.

6% of GDP will be lost by 2050 due to water crisis (under business-as-usual).

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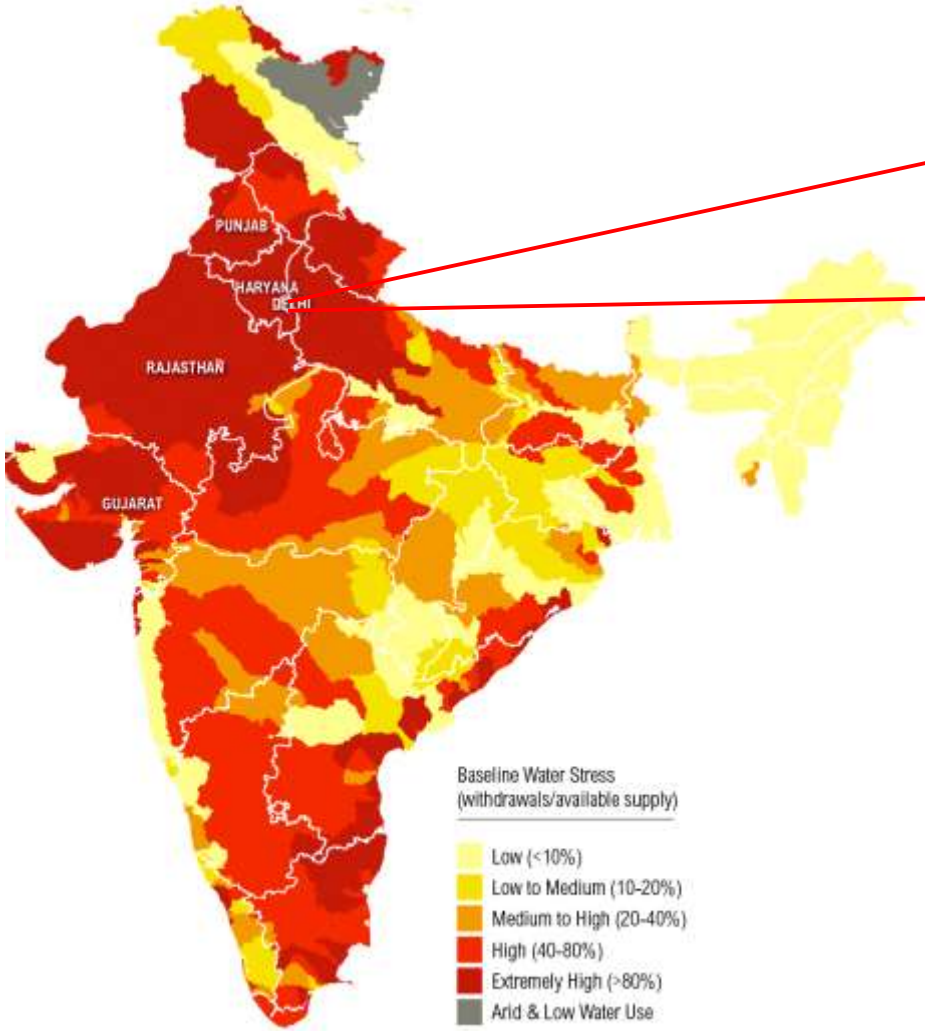
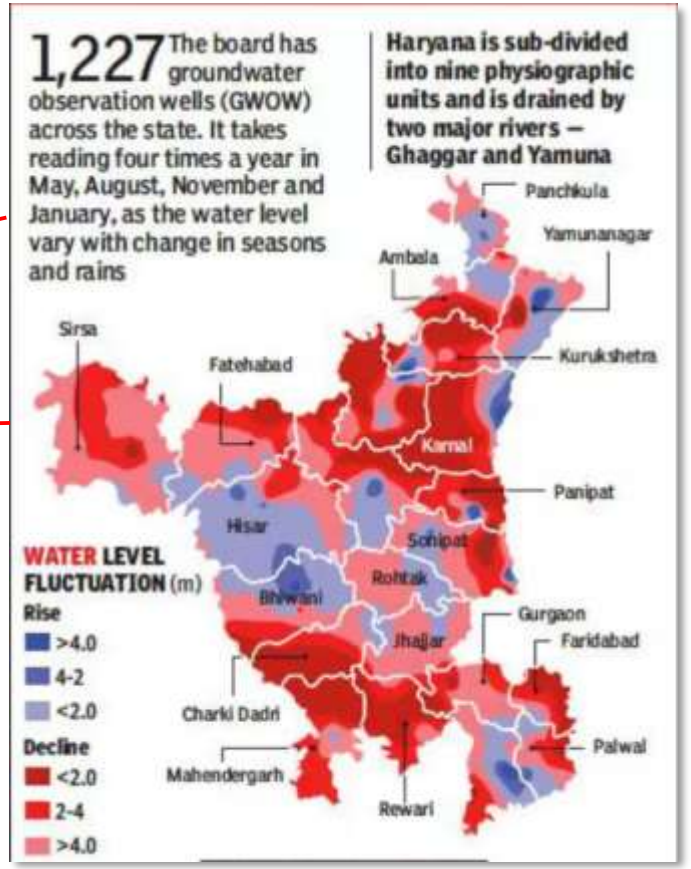
Intensity of water scarcity in Haryana





Water scarcity, rising concern

Water shortage haunts sectors across Gurgaon

Residents hold issues ranging from technical inexpertise to lack of electricity responsible for the poor water situation

GURGAON Updated: May 23, 2017 23:47 IST

Leena Dhankhar
Hindustan Times

Water crisis in 3 Gurgaon sectors, residents blame MCG apathy

TNN | Aug 17, 2018, 02:11 IST

A- A+

Picture for representational purpose only.

GURUGRAM: Around 12,000 residents in Sector 3, 5 and 6 have been reeling under acute water shortage for the last one week. Residents said the motor pumps that supply water to the area have conked out and MCG, which is supposed to oversee water supply, has turned a blind eye to the matter. This has led to private tankers overcharging them for water, they alleged. Residents said the area has been receiving a negligible amount of water for the last six-seven days,

Behind Gurgaon's Fast Growth Is A City Dying Because Of Pollution & Water Scarcity

HarperCollins in Books
4 months ago

NDTV

SECTIONS HOME | GURGAON

Water Shortage In Gurgaon Due To Groundwater Extraction, Maintenance Work

People living in DLF phase one, two, three, four and five, South City one and two, Nirvana city, sector 44, 56, 57, 58, Palam Vihar, sector 14, 15, 16, 17, 18 and many other areas have been hit by water shortage, an official said.

Gurgaon | Press Trust of India | Updated: October 06, 2018 14:54 IST

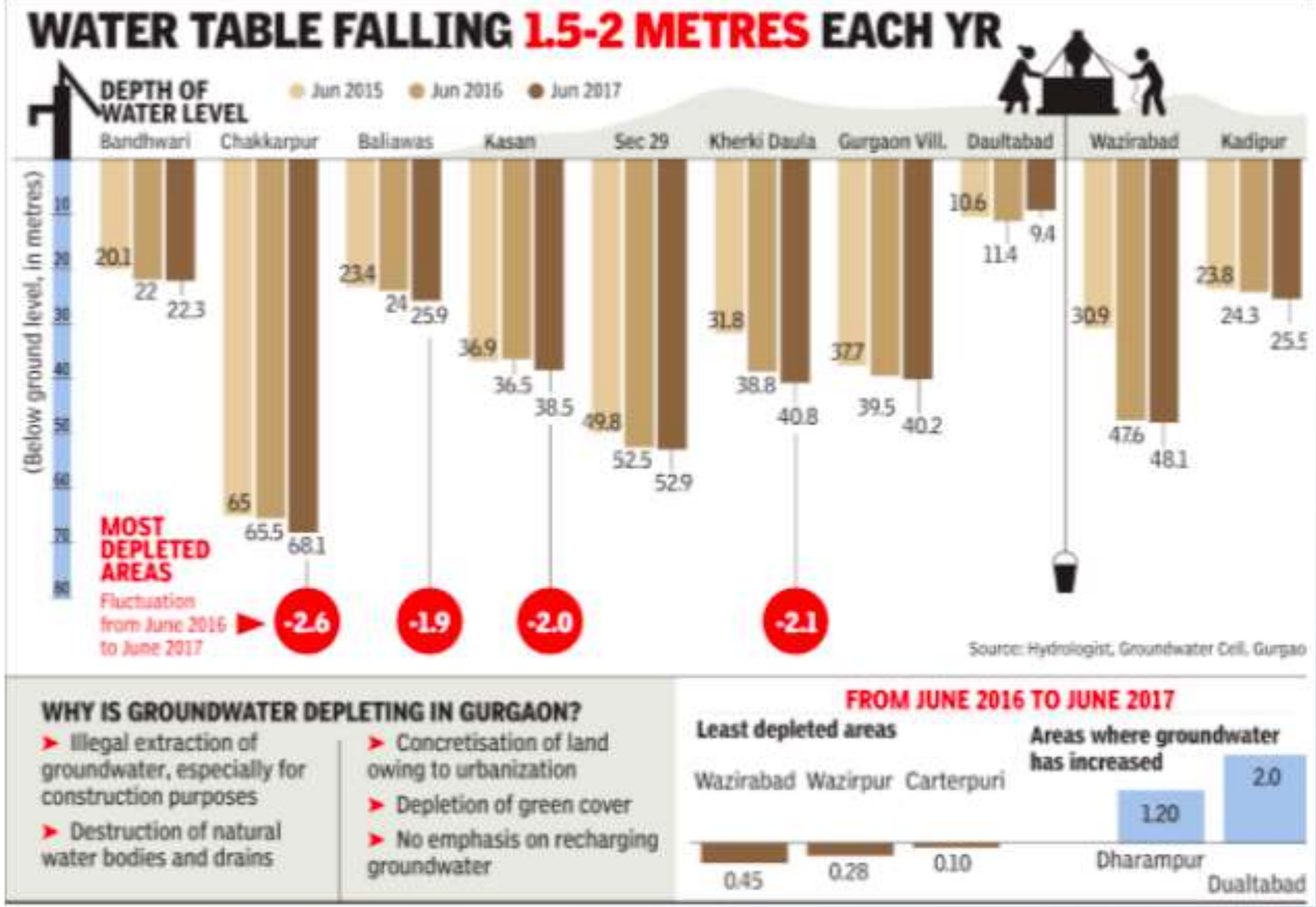
Current Status: all 4 over exploited blocks

Depth to Water Level (mbgl)
Min - 14.89
Max - 40.20

Percentage of observation well showing data Depth in Water Level (mbgl)
20-40 : 50%
> 40 : 16.7%

(as per the data CGWB data of pre-monsoons 2018)

Name of the Block	Avg. Water Table (June 2019)
Gurugram	35.85
Pataudi	36.95
Sohna	25.75
Farukhnagar	20.79



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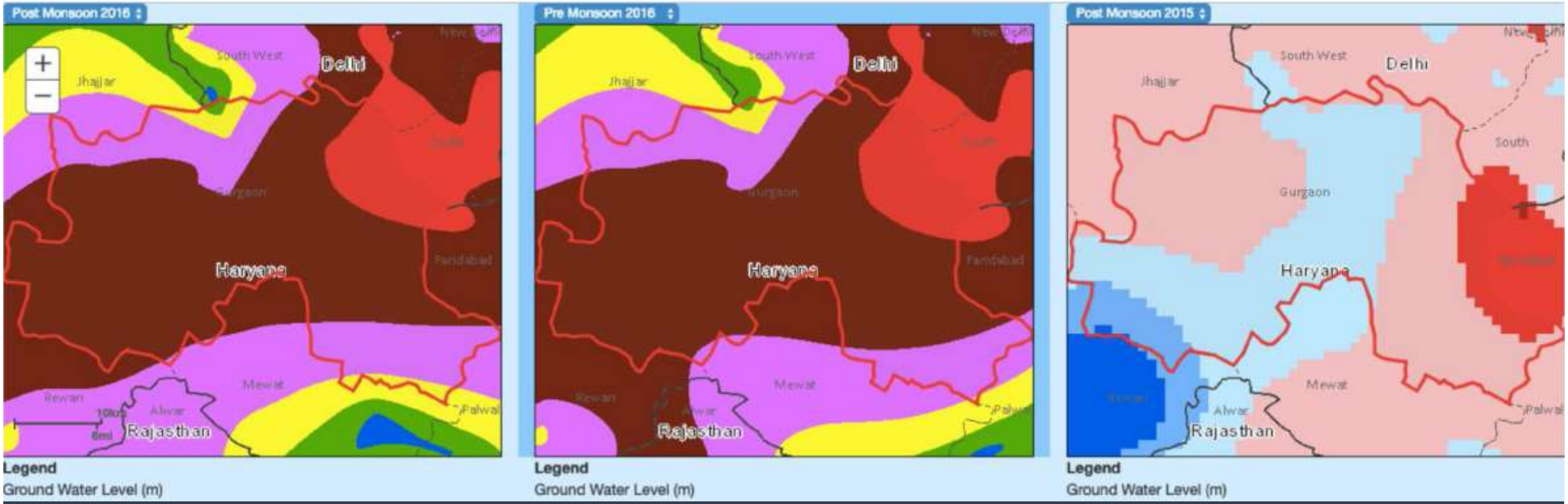
Intensity of water scarcity in Gurugram



Above graph shows the water levels pre and post monsoons of 2016, where most of areas in Gurgaon has water levels between 20-40 meters and in some cases even below 40 meters with and annual fall in water levels. Situation is much worse in 2019.

Floods a major inconvenience during monsoons

Residents of Gurugram recall that there was no news of flooding in 80s and 90s in the city. The cause of flooding in Gurugram may be attributed to only rainfall, the reasons are actually following :

- urbanization
- heavy population density
- high rate of runoff
- drastic reduction of open and soft landscape

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SUB-THEME :

UNDERSTANDING WHY A STRONG WATER POLICY FRAMEWORK IS REQUIRED FOR WATER RESTORATION IN THE COUNTRY AND SUGGESTIVE MEASURES FOR THEM BE IMPLEMENTED ON THE GROUND SUSTAINABLY.

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Ongoing efforts in other states

12th five year plan proposed a policy of Participatory Groundwater Management (PGM), which involves a collaborative approach among government departments, researchers, NGOs and community members.

Andhra Pradesh

Andhra Pradesh Farmers Managed Ground Water Systems (APFMGS)

- Objective was to equip groundwater farmer users with **the necessary data, skills and knowledge to manage groundwater resources** available to them in a sustainable manner using monitoring methods.
- APFAMGS project's key premise was behavioural change leading to voluntary self regulation.

Maharashtra

Gram Gaurav Pratishthan by Pani Panchayat

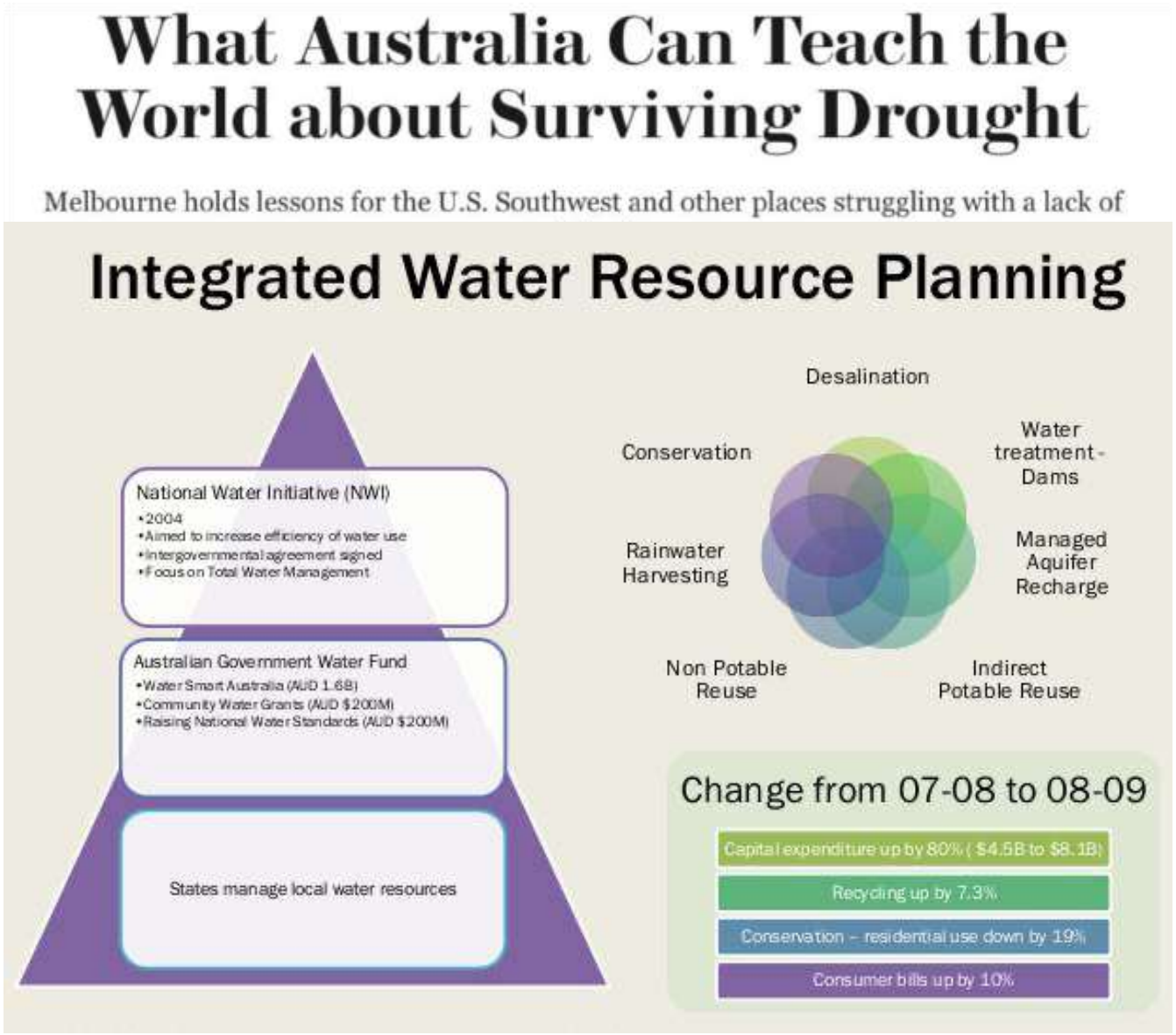
- Movement began by Mr. Vilasrao Salunke, in Maharashtra in 1974, where he took a 40 acre land on lease from the village temple trust and restored natural aquifers.
- The project became popular and was replicated by the other farmers in the state making it a widespread community project

Rajasthan

Chief Minister's Jal Swawlamban Abhiyaan programme.

- Project involved tools such as geo-tagging and surveying with the help of drones while engaging people who too participated actively in the campaign.
- ***Due to water conservation efforts in the state, the groundwater level has risen by 5 feet*** *in around* ***21 districts*** *and declared number 1 in water conservation by NITI Aayog*

Australia – water sensitive country



Legislation

Prior to the drought, in the late 1980s, the city passed legislation that set the groundwork for an integrated government response in case of a drought

Better design and infrastructure

The government invested millions in infrastructure. That included a pipeline that would deliver water over mountains and a water treatment plant.

Encouraging and supporting water reuse

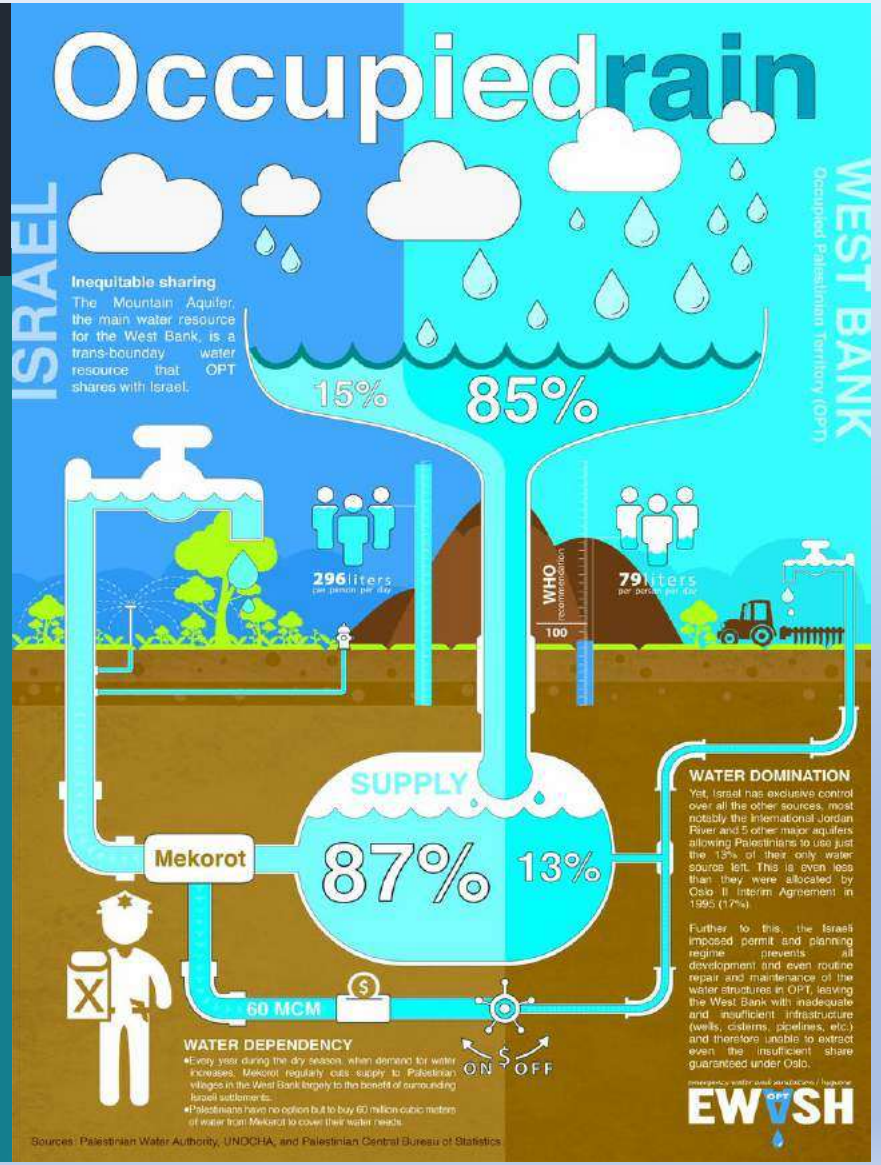
Rebate programs for residential gray-water systems—used for gardening—were implemented.

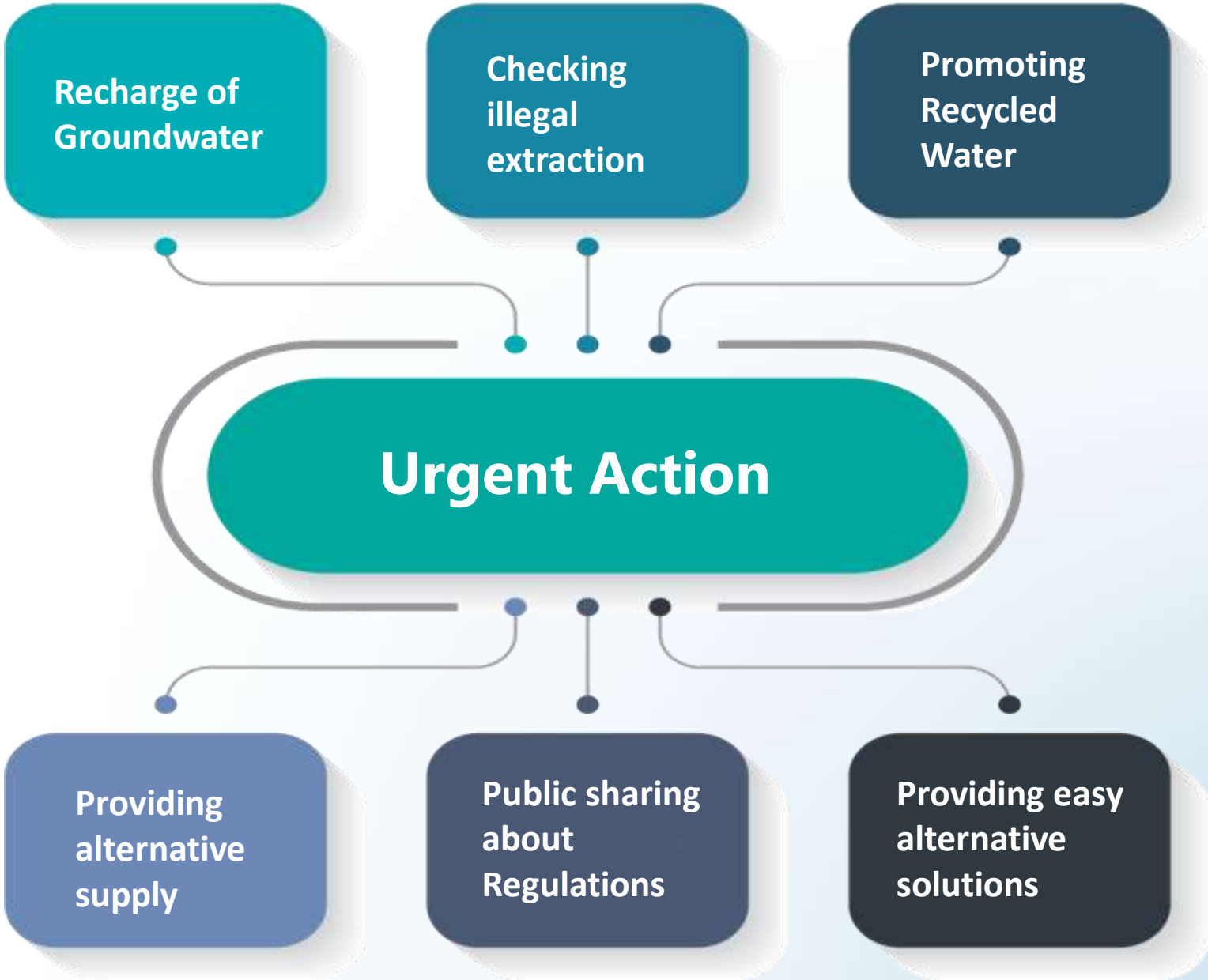
Effective Monitoring

Electronic billboards that flashed reservoir levels. Everybody could relate, and it showed what it would mean if they ran out of water.

Case Study of Israel

Despite being one of the most water scarce countries in the world, Israel has achieved water security and full cost recovery through tariffs through a series of ambitious reforms – World Bank Group





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On research we found out that 18+ Government Departments were working on water in one way or the another, but no one's focus was WATER

- 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

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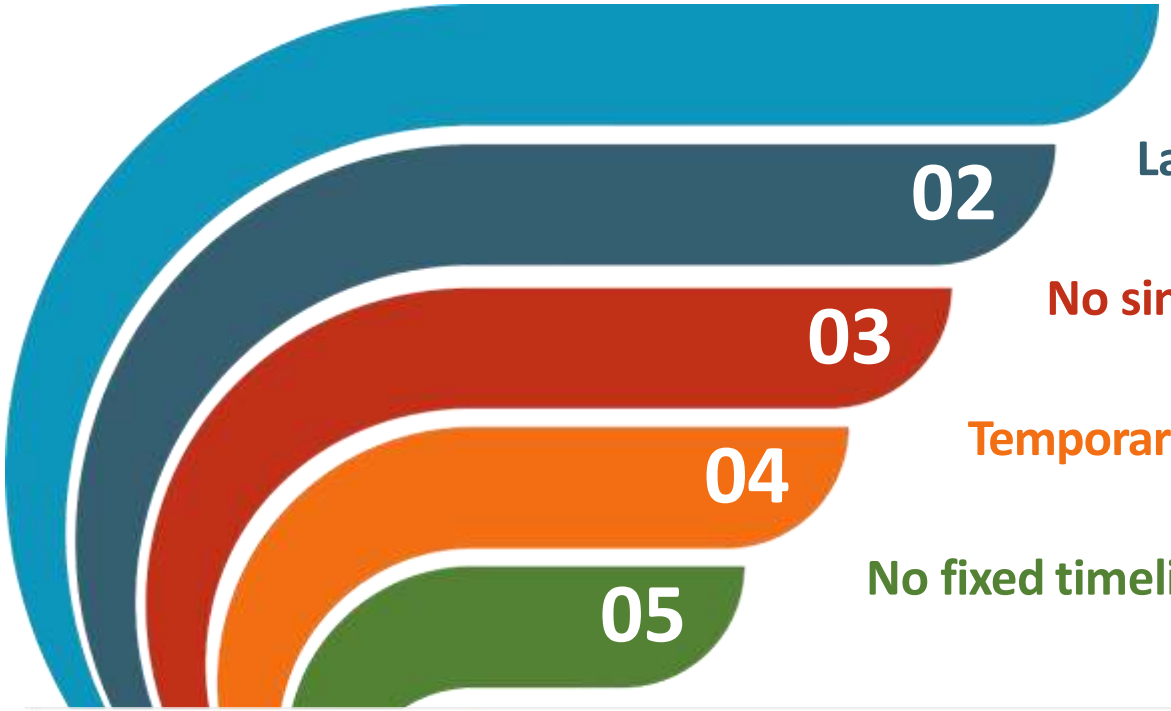
Matter of concern - need of focused and collaborative approach, GuruJal is the solution

GuruJal



Multiple Stakeholders (Govt., NGOs, Private Org.)

Lack of common vision

No single authority (Administration, GMDA, MCG)

Temporary solutions to issues

No fixed timeline

No Water Shortage, But Management Inadequate In India

"India does not have shortage of water but the management of water is not adequate. The need to institute national-level water awards spanning across sectors was strongly felt to encourage people to play their respective roles in conservation of water," Nitin Gadkari said.

All India | Press Trust of India | Updated: February 25, 2019 19:39 IST

Building a Foundation for Sustainable Impact

Platform	Intention	Skills	Knowledge	Understanding of the Context	Resources	Total
Civil Societies	10	7	8	8	5	38/50
Corporates	6	10	6	5	8	35/50
Government	4	4	6	10	10	34/50
Research Organizations	8	5	10	6	8	

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Learnings

- Being is equally important as doing. Sustainable and Systems Thinking approach is very important for sustainable impacts
- Water-tight Process and ensuring constant growth, supportive environment to promote innovation
- Incorporating Monitoring & Evaluation with Research & Development
- Adding Local Wisdom in planning by Experiential Learnings, and bottom-up Approach
- Resource Aggregation

Outcome of the Study – Public Private Partnership Model

Team GuruJal

Chief Members

- Revenue and Disaster Management
- MCG
- GMDA
- Development and Panchayat
- HARSAC

Other Members

- Hydrology Dept.
- Forest Dept.
- PHED Dept.
- PWD Dept.
- HSVP
- DTCP
- Agriculture and Marketing Board
- Horticulture
- Irrigation
- Pond Authority

Under the Chairmanship of DC

Project Management Unit (PMU)

Advisory Team (Domain Experts)

Corporates

Knowledge Partners

Academic Institutions

Implementation Agencies

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GuruJal Objectives

GuruJal's Values

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CONSCIOUS

FOCUSSED, TIME BOUND AND DATA BACKED

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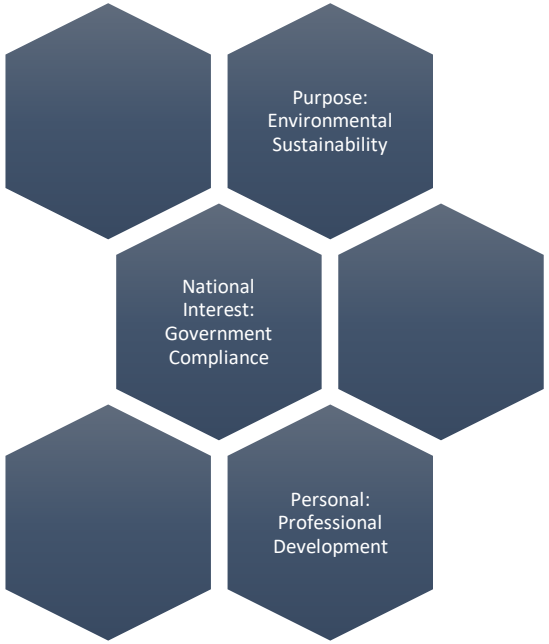
Restoring the essence and keeping it relevant



Central Water Governance Structure

Jal Shakti Ministry (JSM) – Collaboration is the key

Intervention Areas

Water conservation and rainwater harvesting

Renovation of traditional and other water bodies/tanks

Reuse and recharge structures

Watershed development

Intensive afforestation

Special Intervention Areas

Block and District Water Conservation Plan

Development of Block and District Water Conservation Plans (To be integrated with the District Irrigation Plans)

Krishi Vigyan Kendra Mela

Krishi Vigyan Kendra Melas to promote efficient water use for irrigation (Per Drop More Crop), and better choice of crops for water conservation

Urban Waste Water Reuse

In urban areas, plans/approvals with timebound targets to be developed for waste water reuse for industrial and agriculture purposes. Municipalities to pass by-laws for the separation of grey water and blackwater

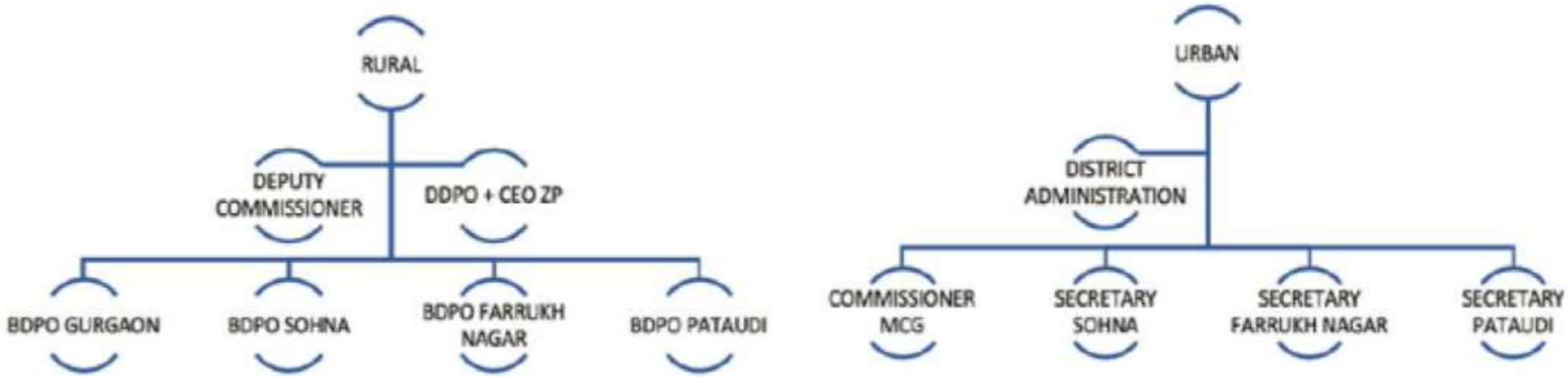
Scientists and IITs

Scientists and IITs to be mobilised at the national level to support the teams

3D Village Contour Mapping

3D Village Contour Maps may be created and made accessible for efficient planning of interventions

District Governance Structure



Series of events under Jal Shakti Abhiyan

200 illegal borewells sealed, other civic bodies join drive

TNN | Updated: Jul 27, 2019, 8:41 IST

A- A+

Representative image

GURUGRAM: Taking into consideration the fast depleting groundwater table in Gurugram, the district administration sealed more than 200 borewells and tubewells on Friday.

The administration, along with teams from the MCG, Municipal Committees of Pataudi, Sohna and municipal committee of Hailey Mandi and Farrukhnagar, PHED, DTCP, groundwater cell, and GuruJal, conducted an enforcement drive in the district.

Story of achievements and learnings

Defined :

1. Targets
2. Objectives

Undefined:

1. Process
2. Tools
3. Capacity Building
4. Resources
5. Ground Evaluation and Monitoring

Immediate intervention needed

Visibly standing challenges

- Gravity of Problem
- Accurate Data Points
- Interventions ongoing

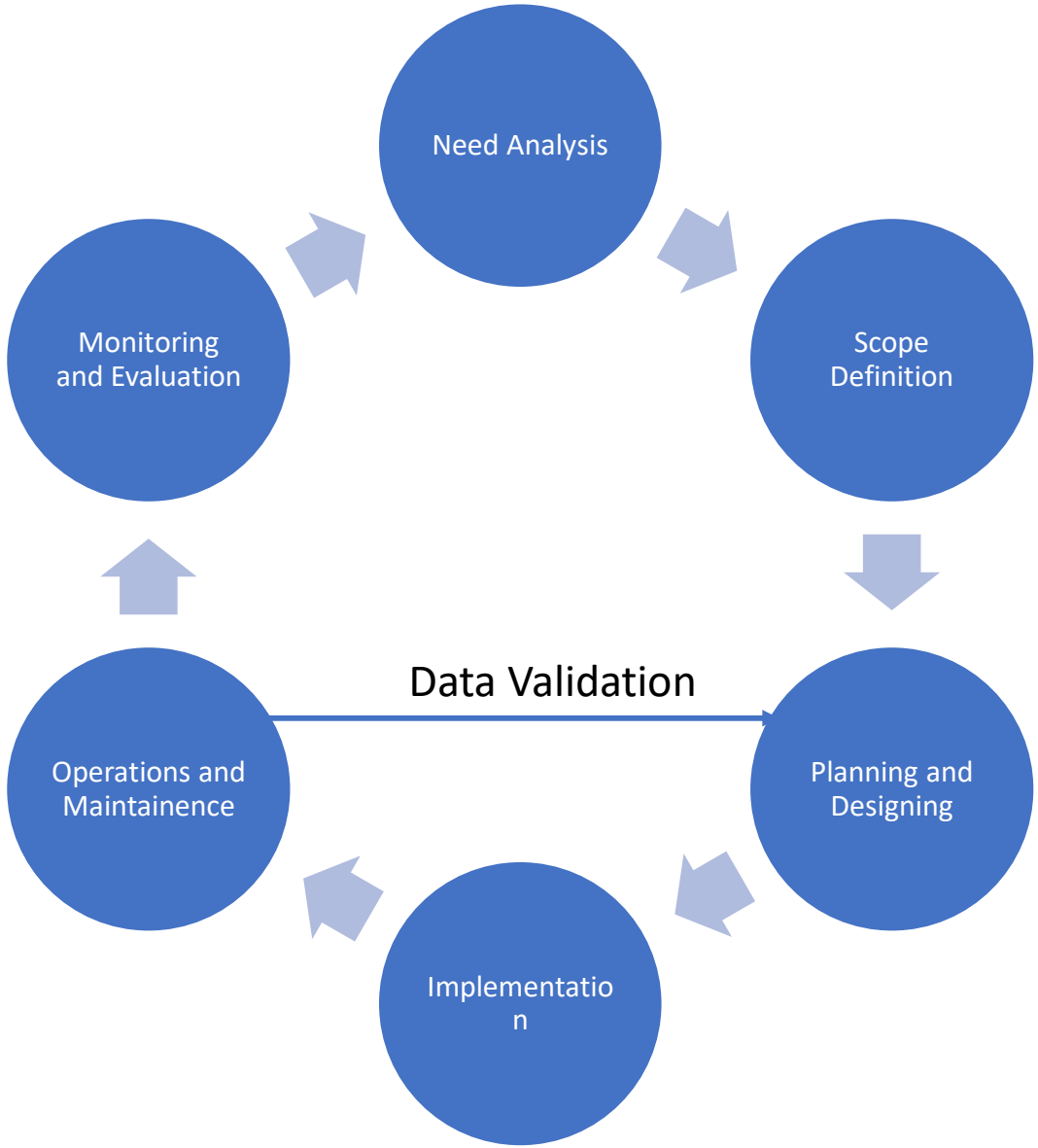
The problem of water management needs to be addressed urgently but cannot be done in pockets, by individual department, organization or single community. It needs to be looked and addressed in a collective manner for long-term impact and sustainability. Hence, there is a need of dedicated team.

Gaps

Frameworks developed so far by JSM address the issue of water scarcity in a national sense and do not account for local condition variations.

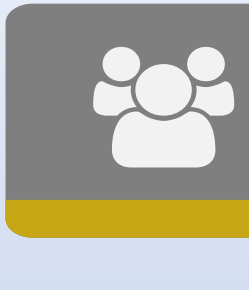
Therefore local government bodies must be enabled and empowered to implement the frameworks according to the needs of the locality.

Outcome: Model for Sustainability



Research and Development

Expected outcomes from Guru-Jal



100% compliance to water sensitive schemes

- Multi department and stakeholder approach
- Convergence of different schemes to achieve the objective

Policy changes

- Water regulations
- Prizes and fines

Construction of water conservation infrastructure

- Rejuvenation of ponds
- Storm water drains and catchment areas

Improved rankings and parameters

- Improvement in ground water levels
- Reduced cases of floods

Interventions to support the target

OUR INTERVENTIONS :

Awareness Campaigns

1. Residential Welfare Associations
2. Schools and Colleges
3. Panchayats
4. Corporates
5. Builders and Contractors
6. Government Offices

Engaging civil society organizations and volunteers to design and run the campaigns

Better Enforcement

Supporting Compliance

1. Reviving Pond and Wastewater Authority
2. Reviewing the work of Biodiversity Management Committee
3. Promoting the use of Drip & Micro Irrigation (Agriculture & Horticulture Department)
4. Promoting Tree Plantations (Forest Department)

Innovative Design Solutions

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SUB-THEME 2:

INTRODUCE THE WATER STORY IN INDIA WITH A DISCUSSION FOLLOWED BY MEASURES THAT CAN BE IMPLEMENTED FOR WATER CONSERVATION AND THE BEST PRACTICES REGARDING THESE METHODS.

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Harvesting Rainwater
Harvesting Life

Traditional Method of Rainwater Harvesting

Jhalara

Jhalaras are typically rectangular-shaped stepwells that have tiered steps on three or four sides.

These stepwells collect the subterranean seepage of an upstream reservoir or a lake.

Baoli

These beautiful stepwells typically have beautiful arches, carved motifs and sometimes, rooms on their sides. The locations of baolis often suggest the way in which they were used. Stepwells used exclusively for agriculture had drainage systems that channelled water into the fields.

Taanka

Taanka is a traditional rainwater harvesting technique indigenous to the Thar desert region of Rajasthan. A Taanka is a cylindrical paved underground pit into which rainwater from rooftops, courtyards or artificially prepared catchments flows. An important element of water security in these arid regions, taankas can save families from the everyday drudgery of fetching water from distant sources.

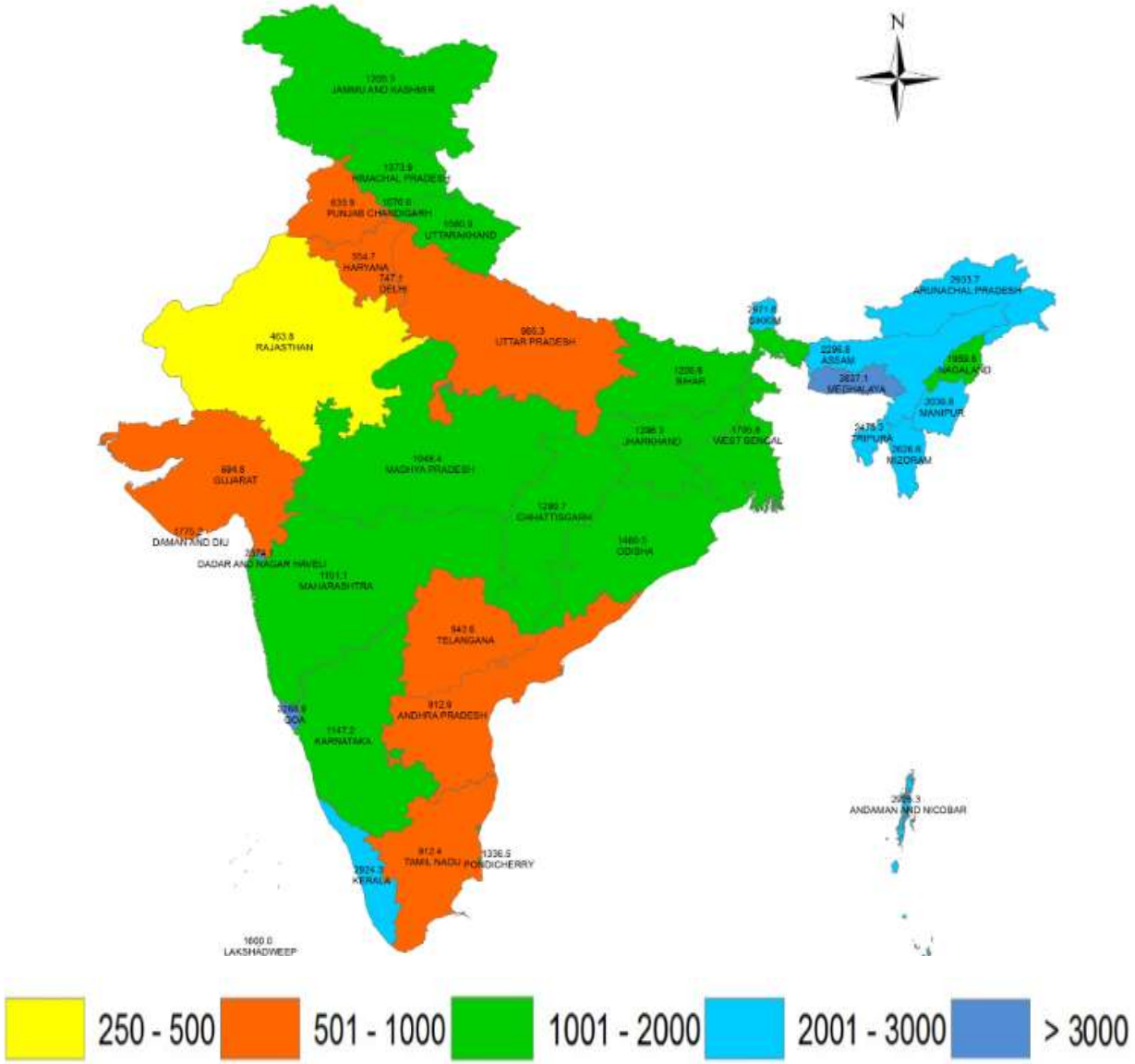
Kund

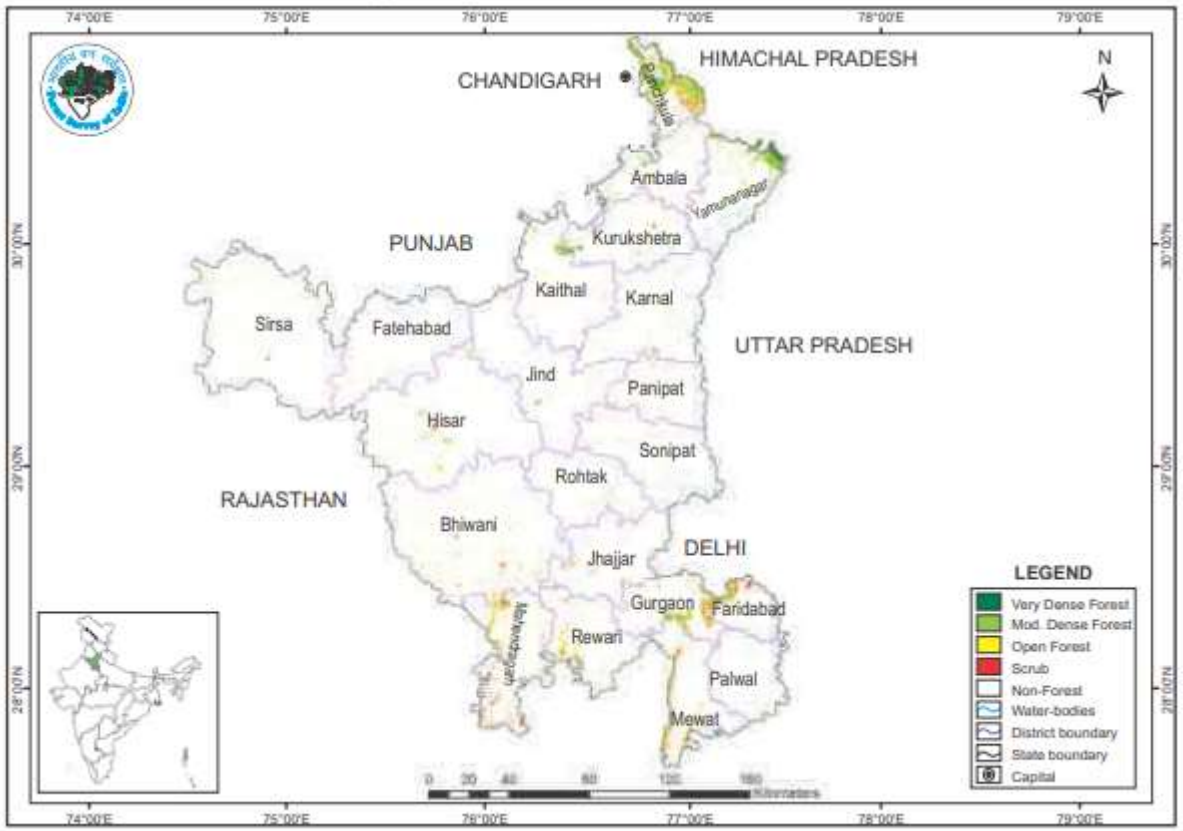
A kund is a saucer-shaped catchment area that gently slope towards the central circular underground well. Its main purpose is to harvest rainwater for drinking. Kunds dot the sandier tracts of western Rajasthan and Gujarat. Traditionally, these well-pits were covered in disinfectant lime and ash, though many modern kunds have been constructed simply with cement. Raja Sur Singh is said to have built the earliest known kunds in the village of Vadi Ka Melan in the year 1607 AD.

Lake

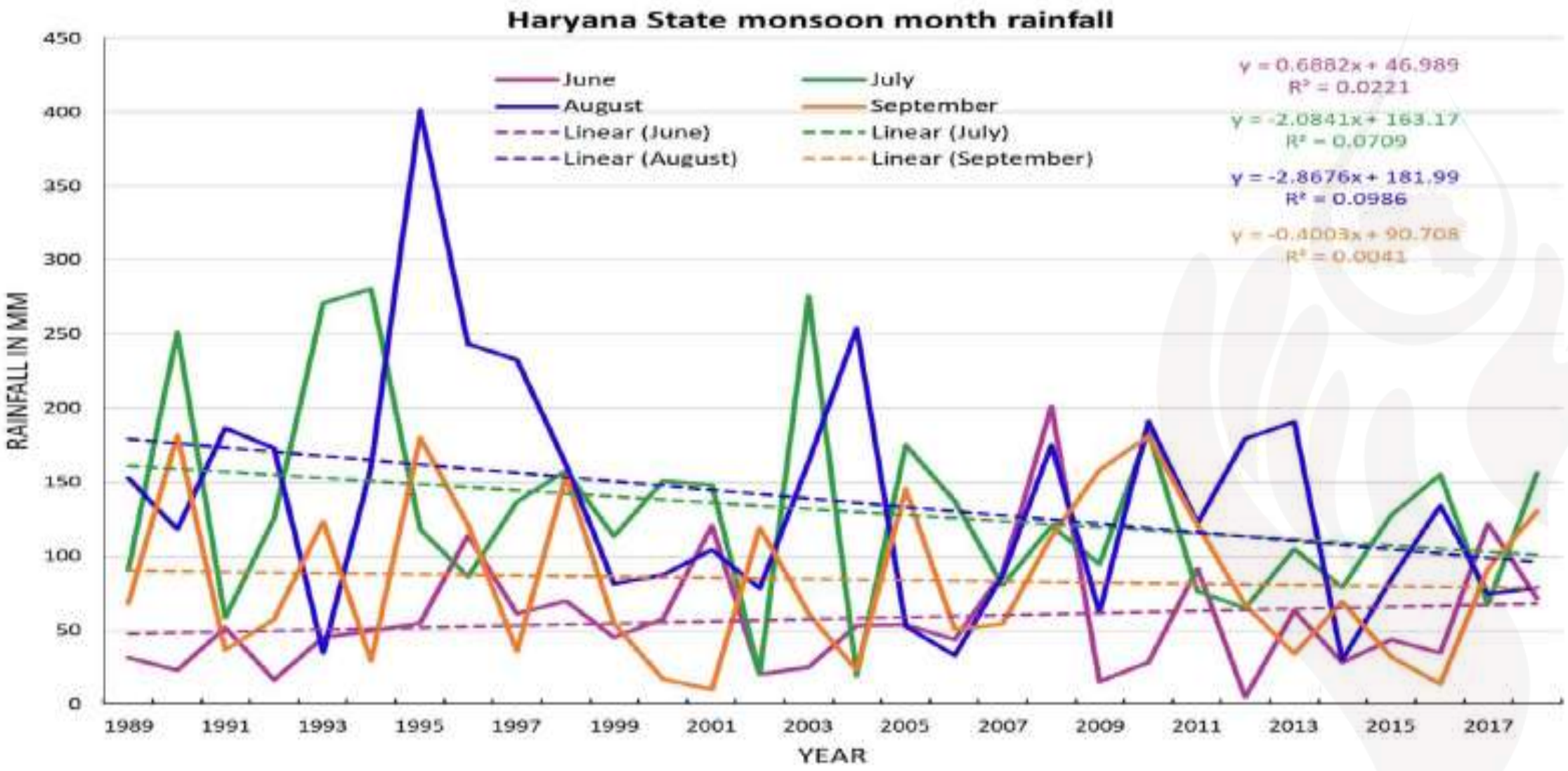
Talabs are reservoirs that store water for household consumption and drinking purposes. They may be natural, such as the *pokhariyan* ponds at Tikamgarh in the Bundelkhand region or man made, such as the lakes of Udaipur. A reservoir with an area less than five *bighas* is called a *talai,* a medium sized lake is called a *bandhi* and bigger lakes are called *sagar* or *samand*.

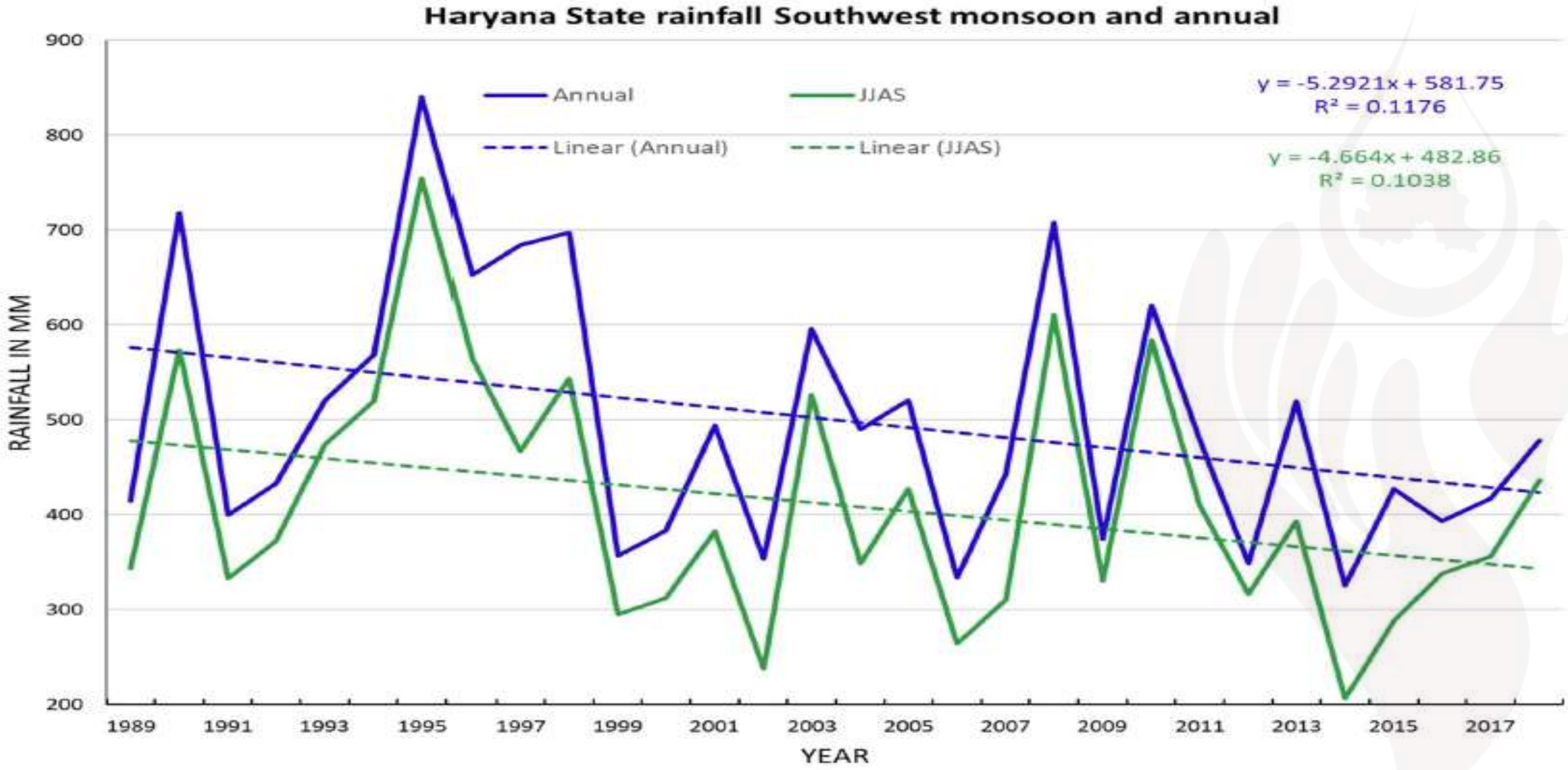
Rainfall Statistics



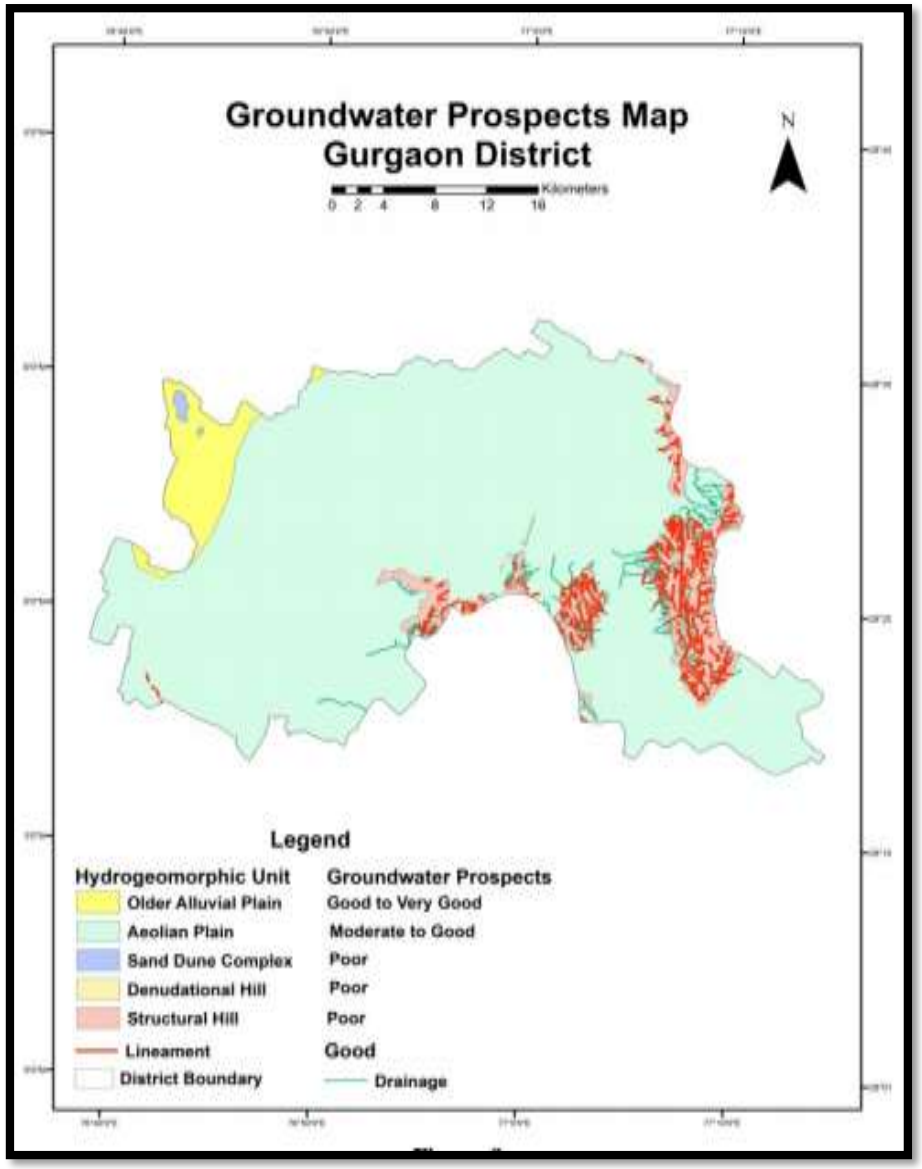


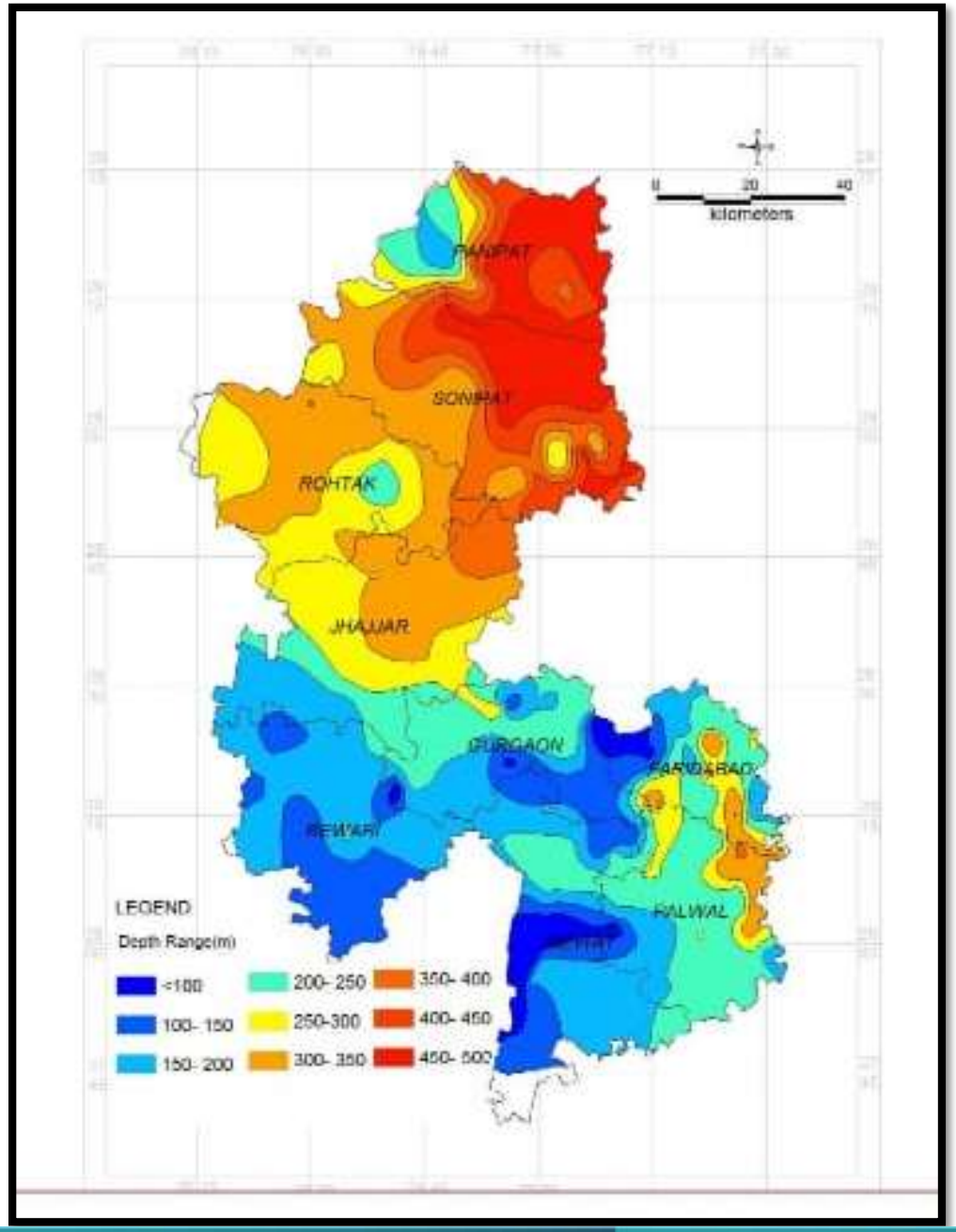
Source: IMD

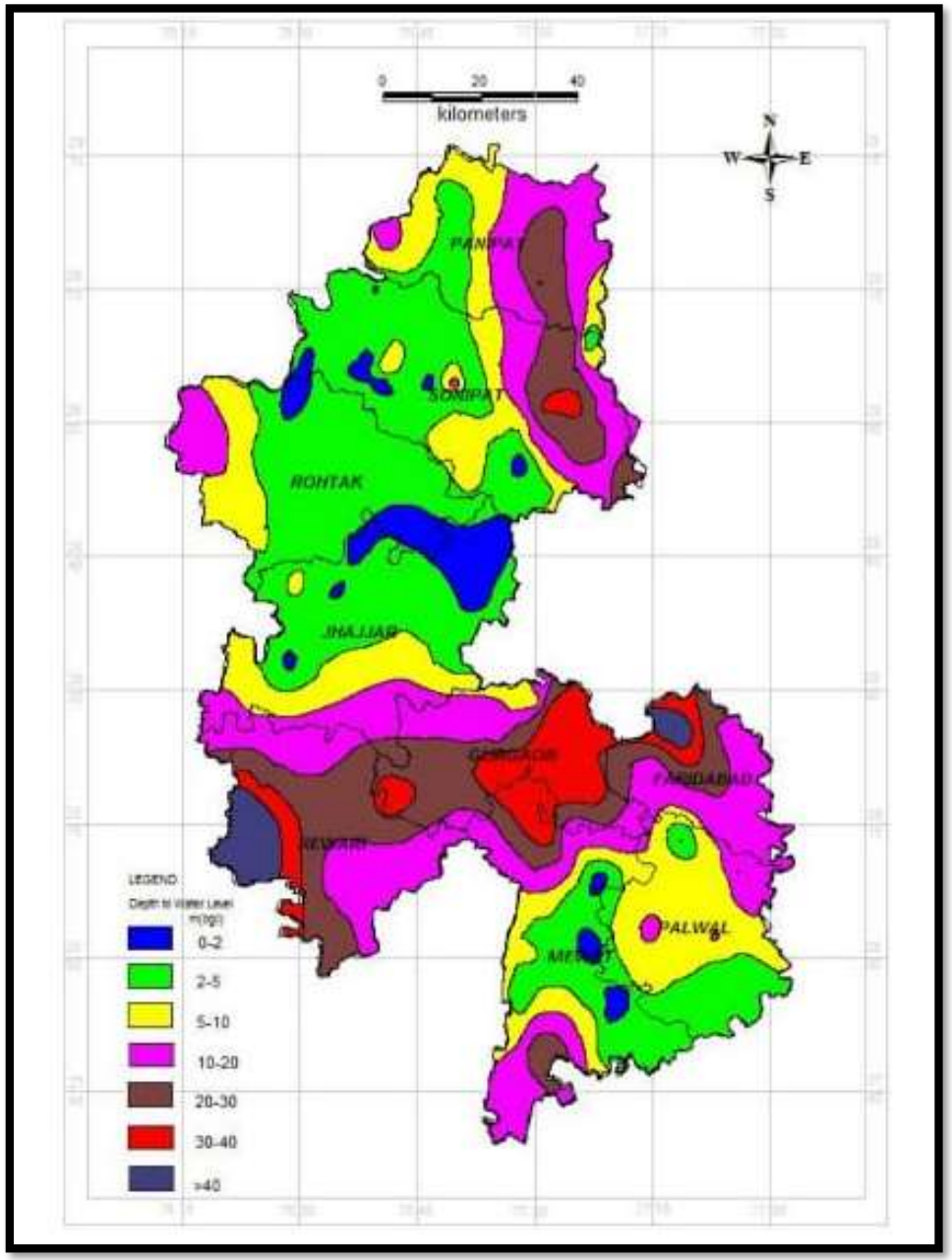

Haryana State monsoon month rainfall
June
July
August
September
Linear (June)
Linear (July)
Linear (August)
Linear (September)
y = 0.6882x + 46.989
R² = 0.0221
y = -2.0841x + 163.17
R² = 0.0709
y = -2.8676x + 181.99
R² = 0.0986
y = -0.4003x + 90.708
R² = 0.0041
RAINFALL IN MM
YEAR
0
50
100
150
200
250
300
350
400
450
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017


Haryana State rainfall Southwest monsoon and annual
900
800
700
600
500
400
300
200
RAINFALL IN MM
Annual
JJAS
Linear (Annual)
Linear (JJAS)
y = -5.2921x + 581.75
R² = 0.1176
y = -4.664x + 482.86
R² = 0.1038
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
2013
2015
2017
YEAR

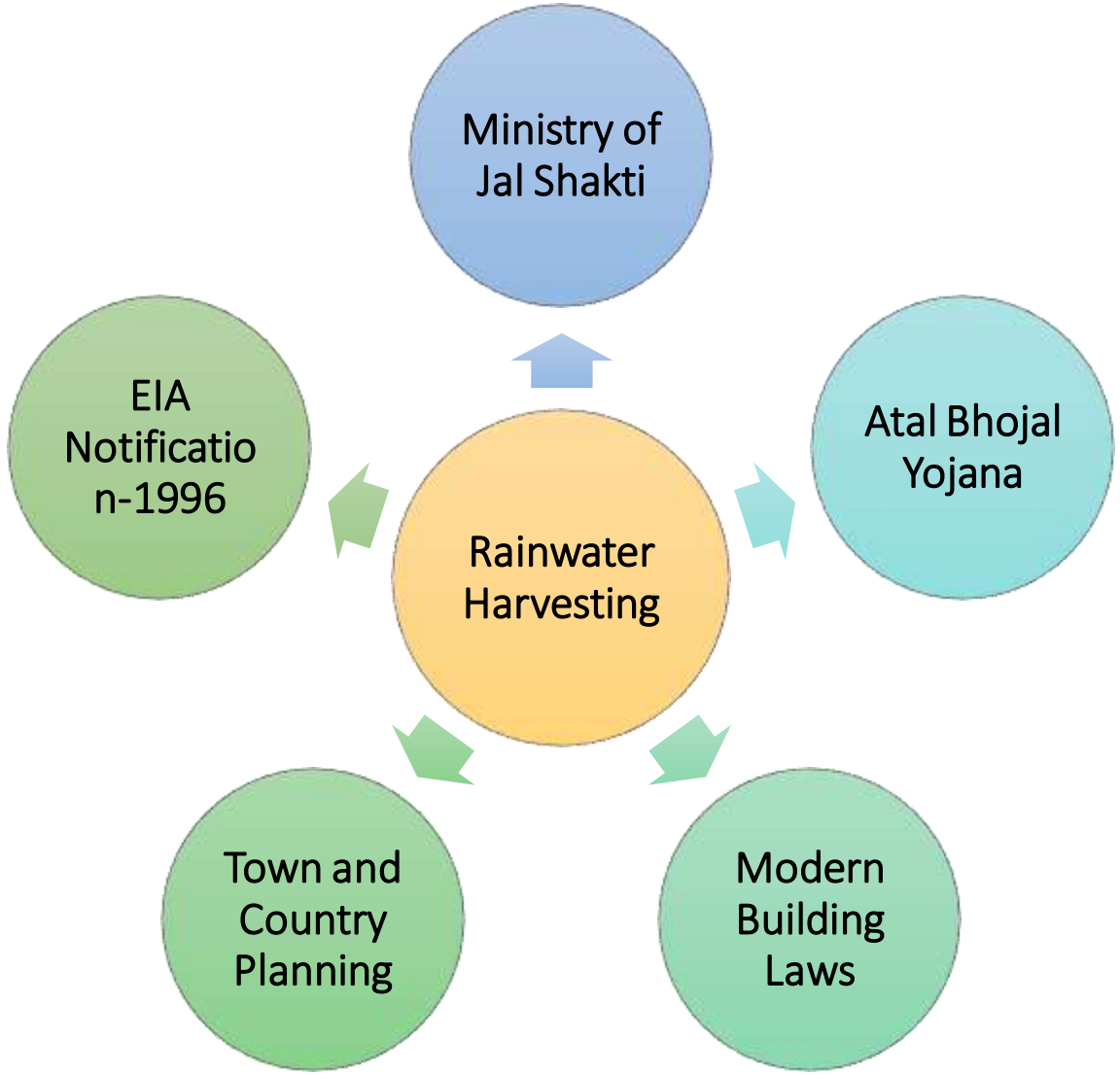
Gurugram at a glance




0 20 40
kilometers
PANIPAT
SONIPAT
ROHTAK
JHAJJAR
GURGAON
FARIDABAD
REWARI
PALWAL
LEGEND
Depth Range(m)
<100
100- 150
150- 200
200- 250
250-300
300- 350
350- 400
400- 450
450- 500


0 20 40
kilometers
N
W
E
S
PANIPAT
SONIPAT
ROHTAK
JHAJJAR
FARIDABAD
REWARI
PALWAL
LEGEND
0-2
2-5
5-10
10-20
20-30
30-40
>40

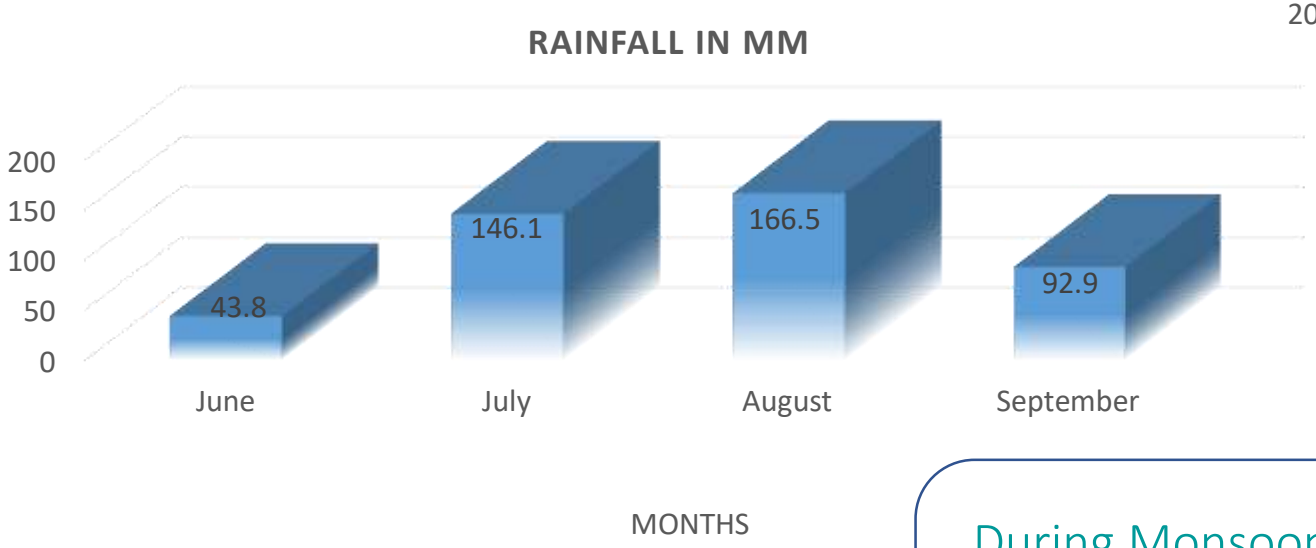
Government Mandates

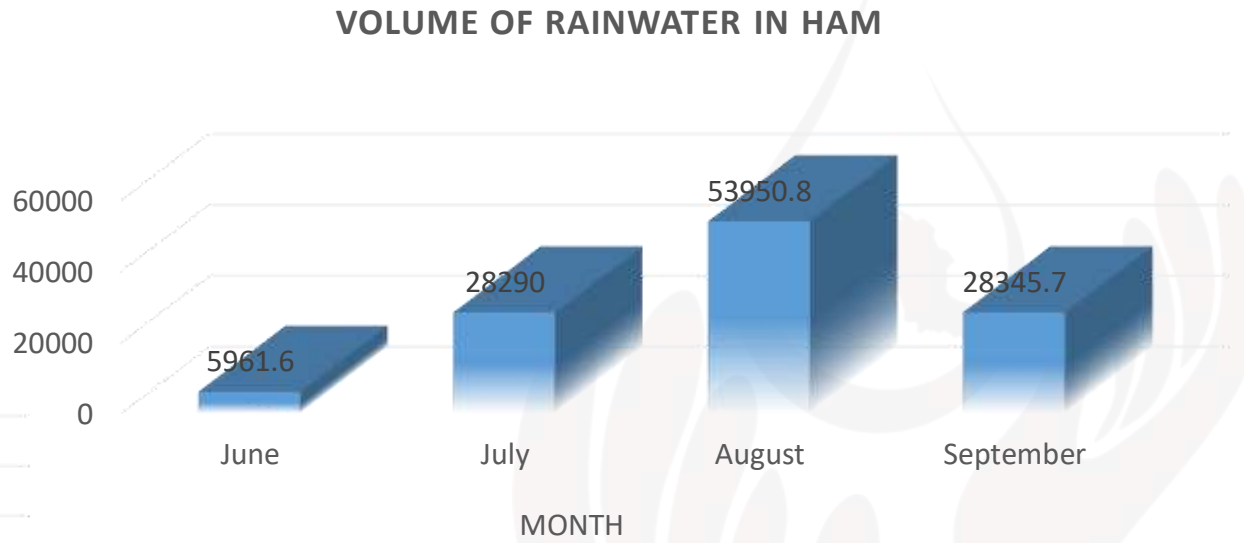


All buildings having plot size of 100 sq.m or more, while submitting the building plans for sanction, shall mandatorily include the complete proposal of rainwater harvesting.

Gurugram Rainfall

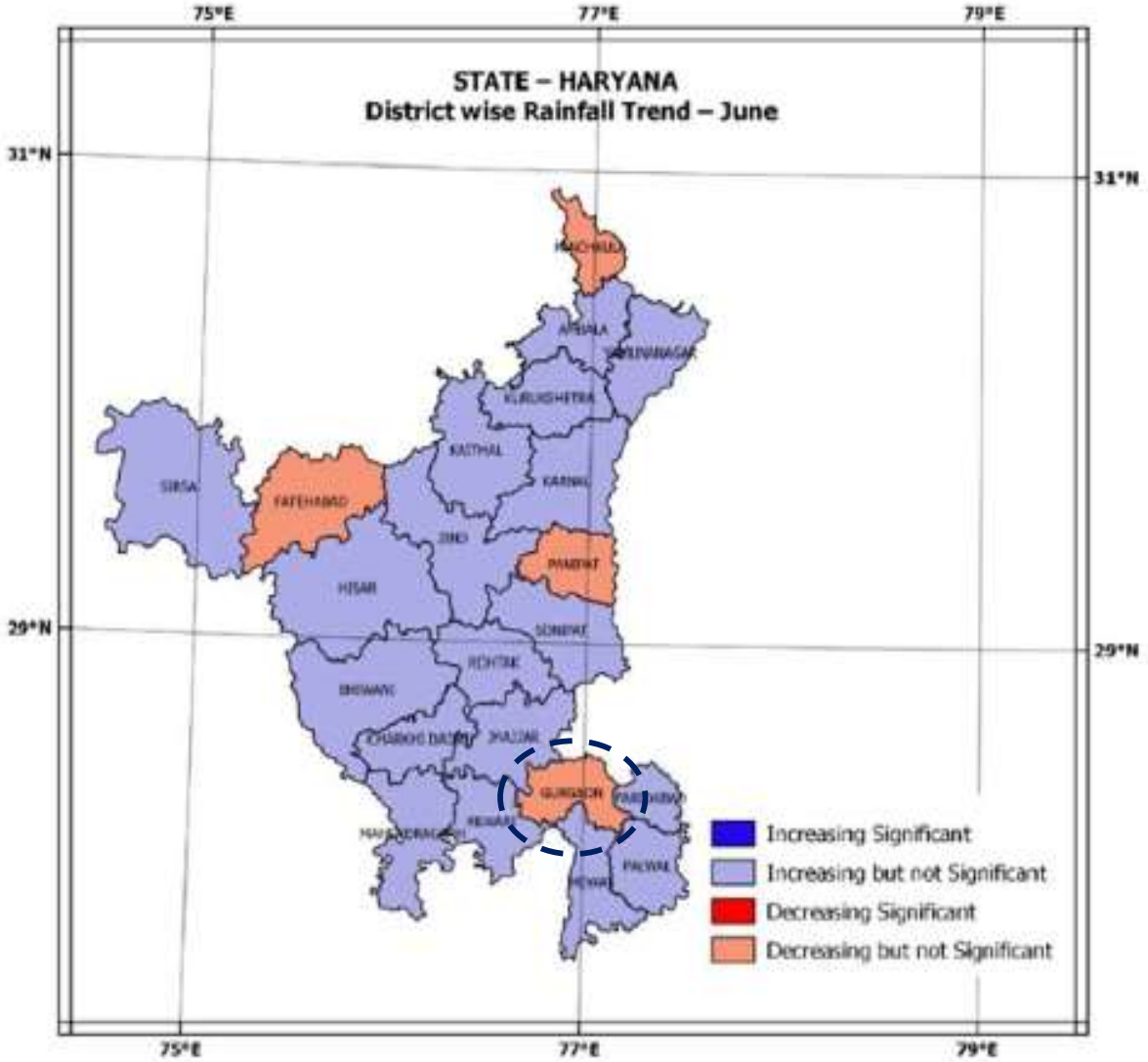
Total Geographical area of Gurugram is 1258 sq.km.

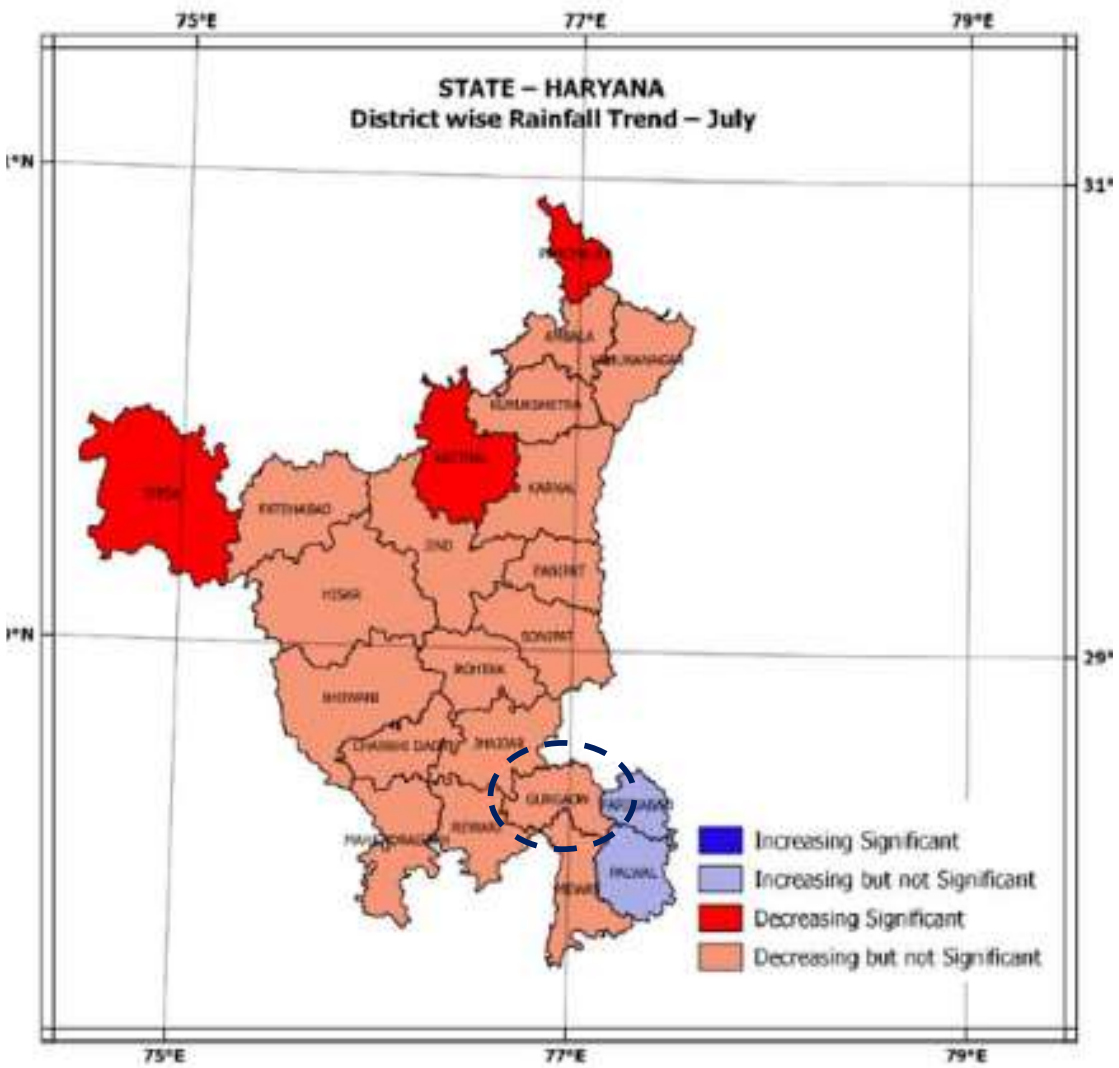


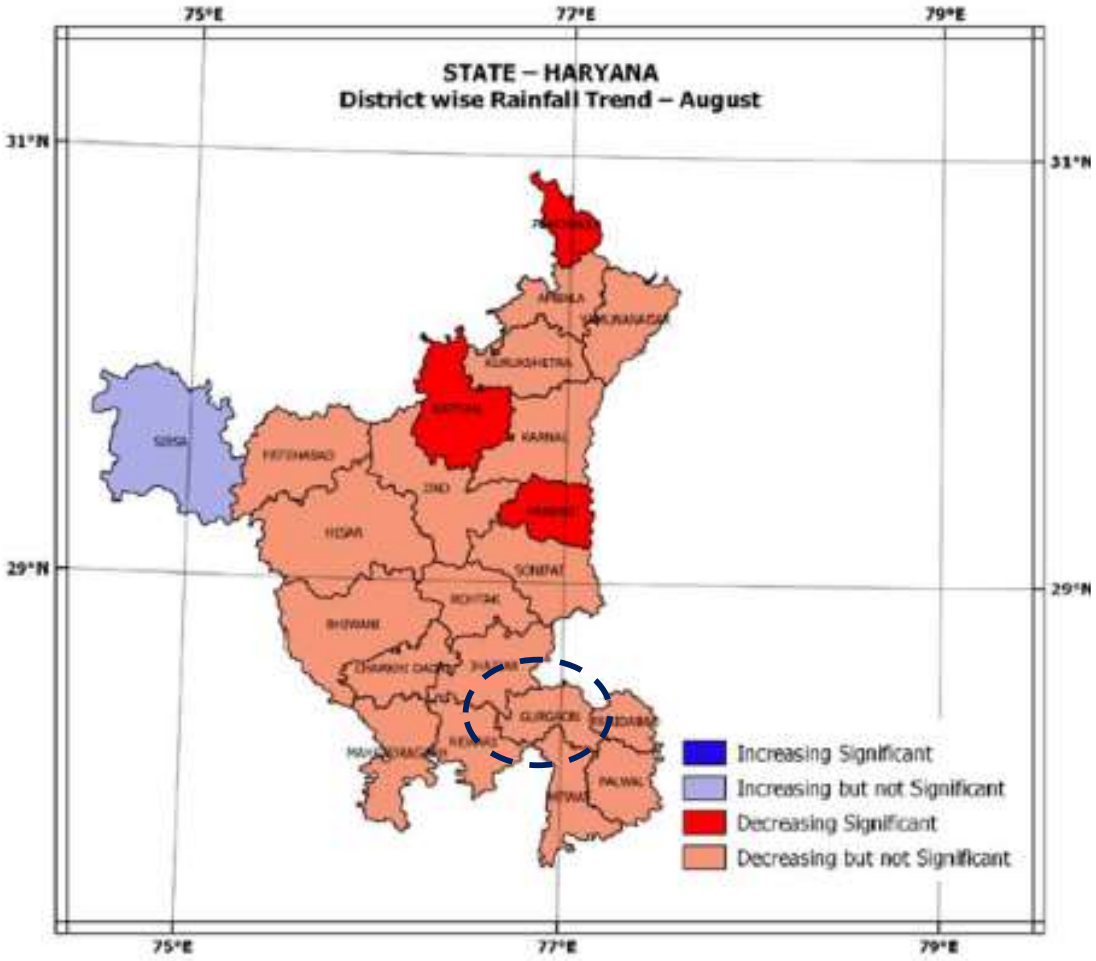


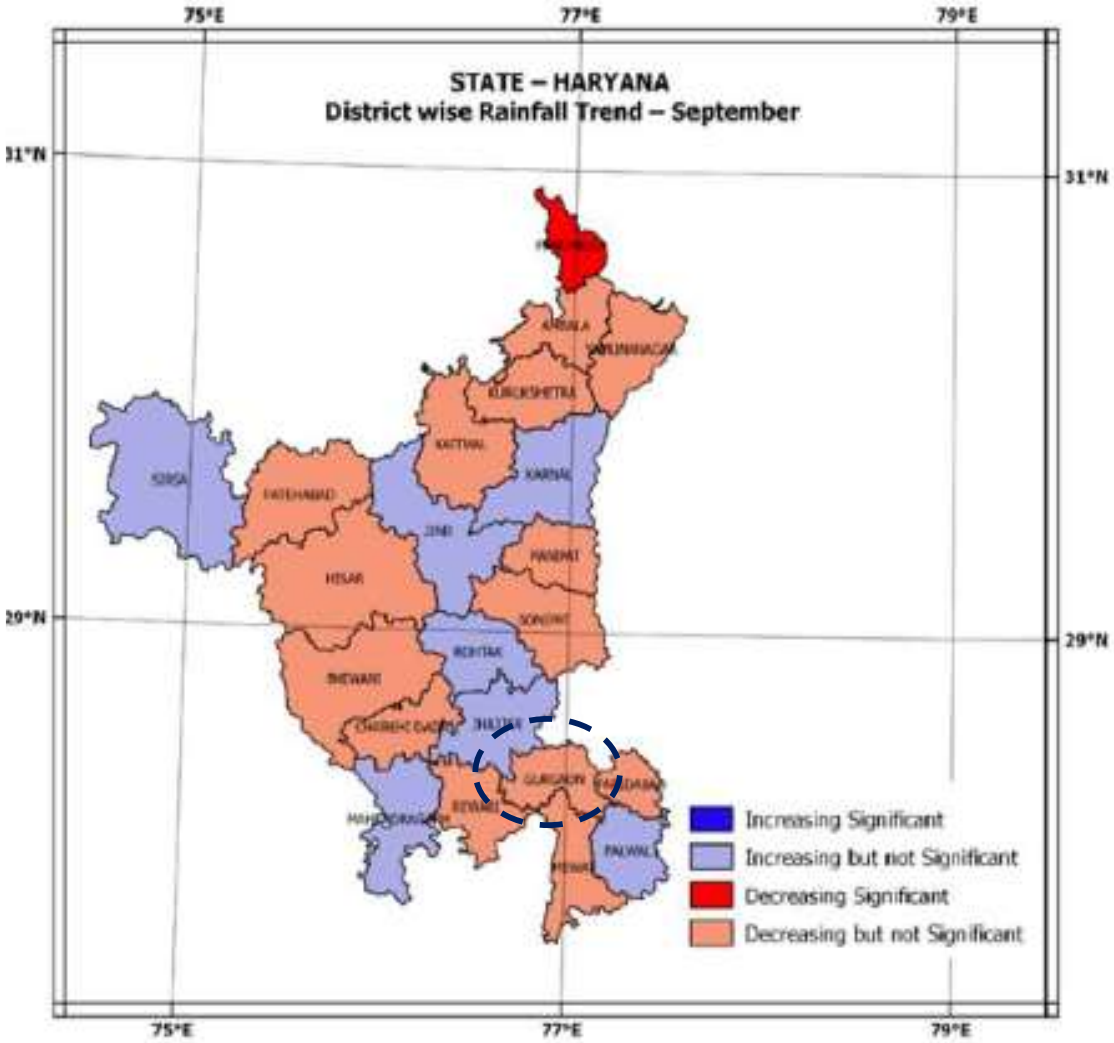
During Monsoon 447.2 mm of Rainfall;
Annually 592.2 mm of Rainfall

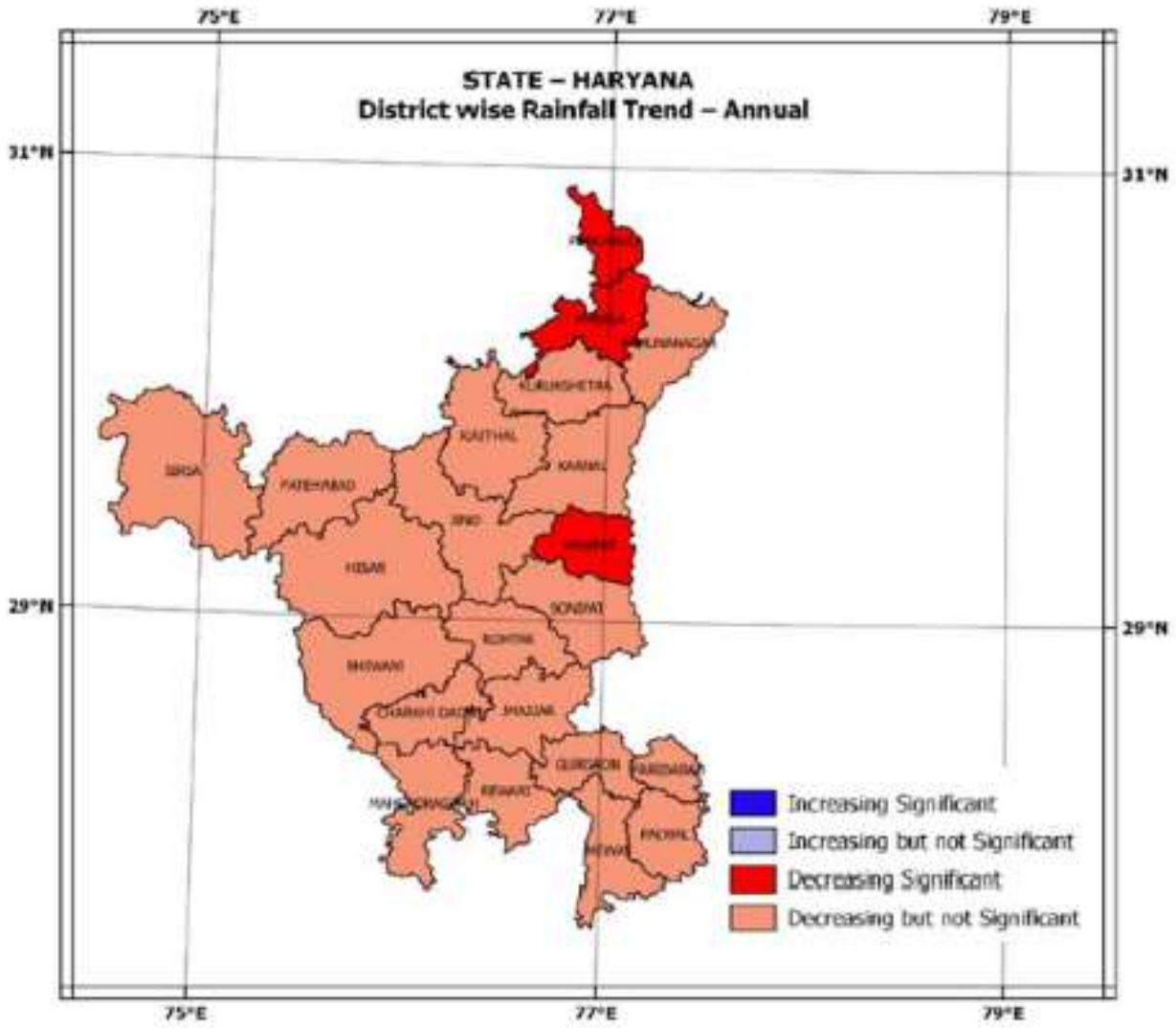
In a year 0.42 volume of rainwater is available per hectare in Gurugram

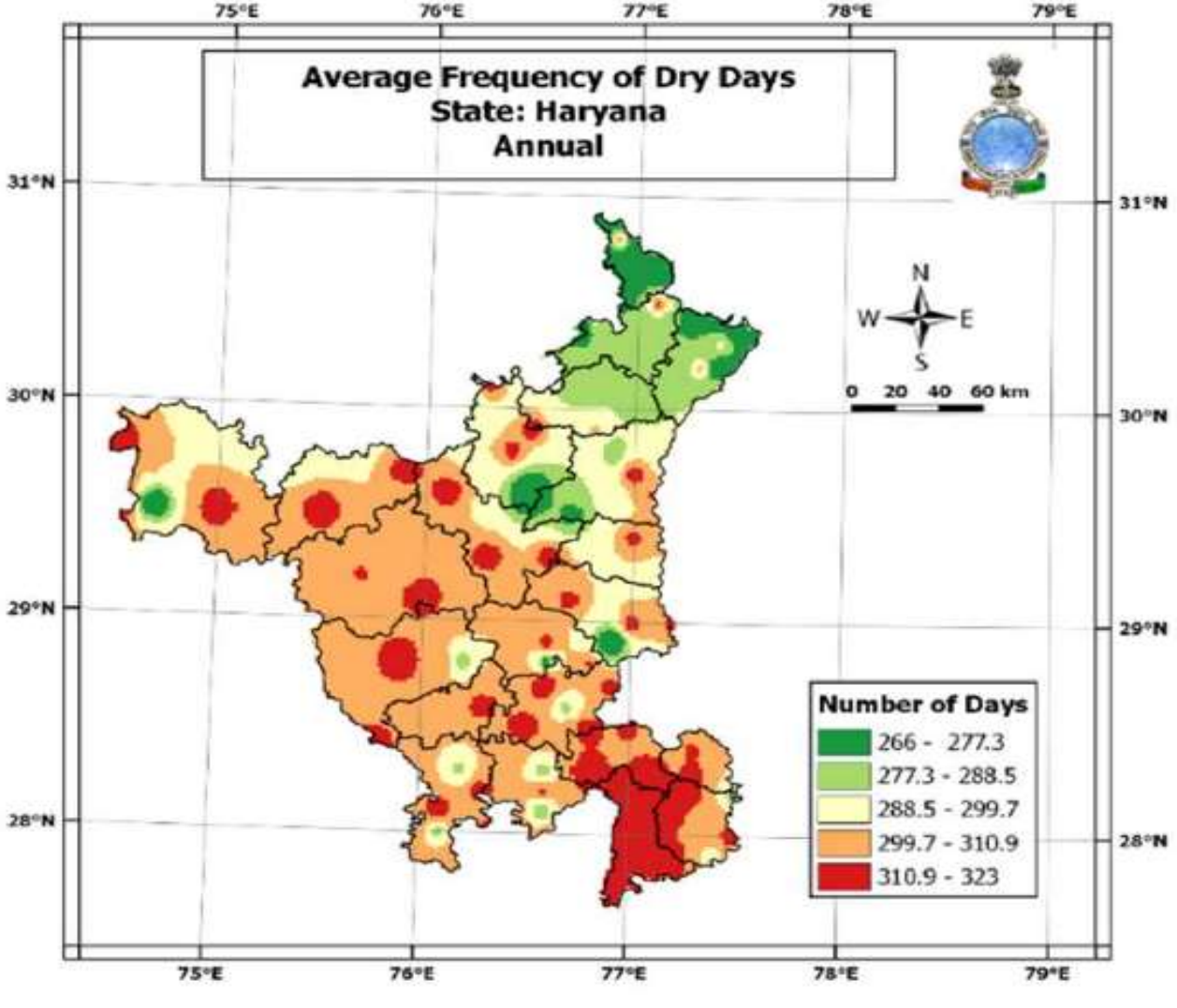

STATE – HARYANA
District wise Rainfall Trend – June
75°E
77°E
79°E
31°N
29°N
Increasing Significant
Increasing but not Significant
Decreasing Significant
Decreasing but not Significant


STATE – HARYANA
District wise Rainfall Trend – July
75°E
77°E
79°E
Increasing Significant
Increasing but not Significant
Decreasing Significant
Decreasing but not Significant


STATE – HARYANA
District wise Rainfall Trend – August
75°E
77°E
79°E
31°N
29°N
Increasing Significant
Increasing but not Significant
Decreasing Significant
Decreasing but not Significant


STATE – HARYANA
District wise Rainfall Trend – September
75°E
77°E
79°E
31°N
29°N
Increasing Significant
Increasing but not Significant
Decreasing Significant
Decreasing but not Significant


STATE – HARYANA
District wise Rainfall Trend – Annual
75°E
77°E
79°E
31°N
29°N
Increasing Significant
Increasing but not Significant
Decreasing Significant
Decreasing but not Significant


Average Frequency of Dry Days
State: Haryana
Annual
75°E
76°E
77°E
78°E
79°E
31°N
30°N
29°N
28°N
N
W
E
S
0 20 40 60 km
Number of Days
266 - 277.3
277.3 - 288.5
288.5 - 299.7
299.7 - 310.9
310.9 - 323

Urbanization in Gurugram District (1986-2016)

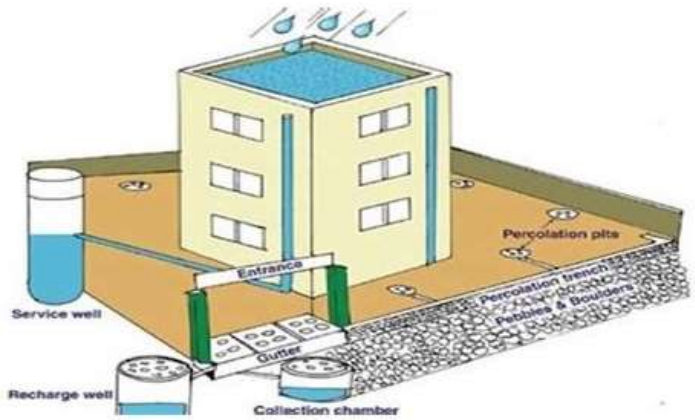
Natural Drainage Pattern of Gurugram

The main cause of this flooding is the Intensity of the rainfall in a short duration of time;
Secondly, major urban area is paved the reason is urbanisation and disturbing the natural flow gradient g th Gurugram

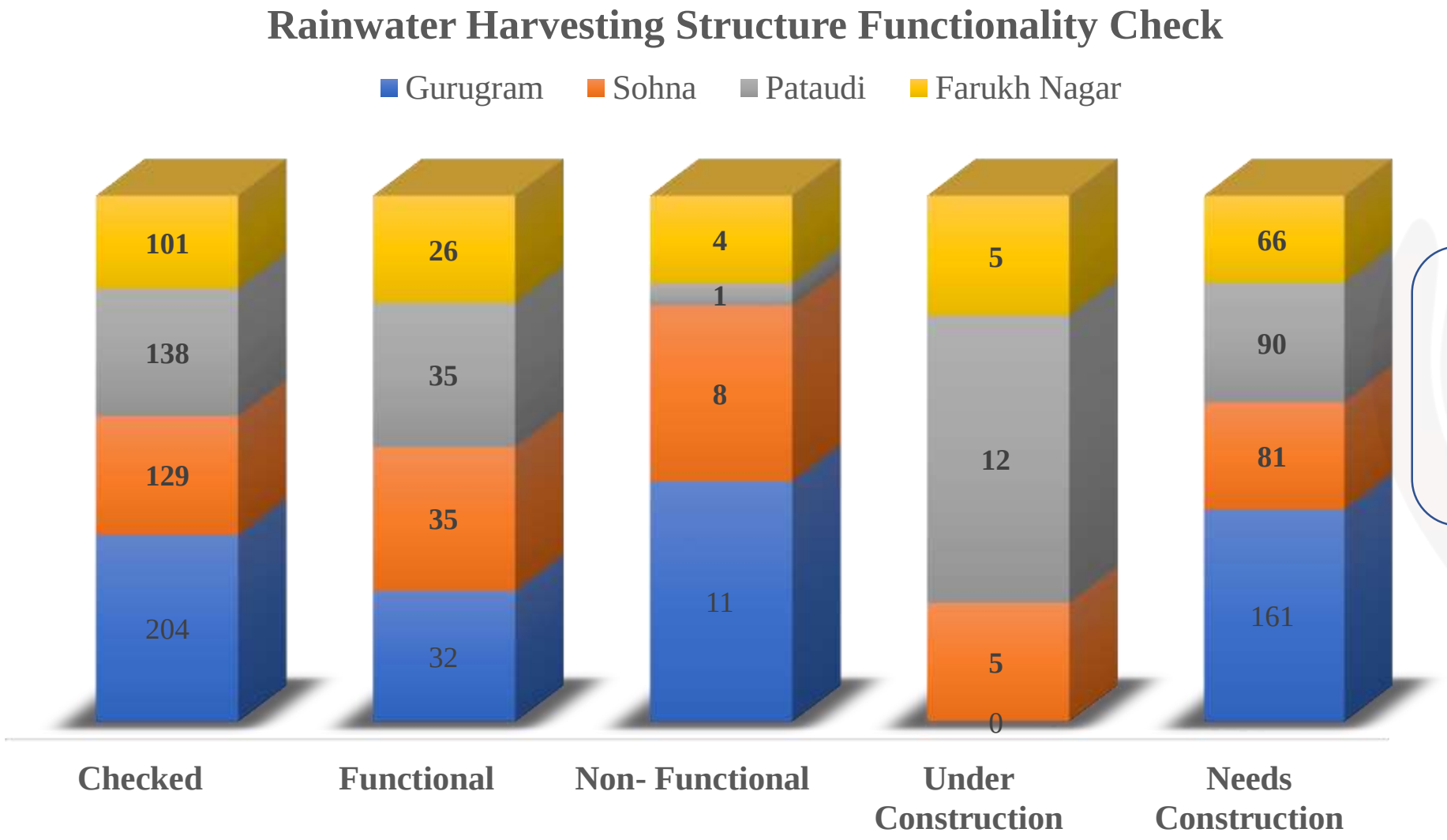
So, if we look the map, drainage pattern of Gurugram is from East to West direction i.e. towards the Najafgarh drain, but this natural gradient is stopped by High rises of Gurugram, causes flooding during the rainy season.

GuruJal Intervention

WATER
PROOFING
FIX THE LEAK WEEK



Rainwater Harvesting Structure Functionality Check in Rural Schools of Gurugram District



Approx. 304 Million Litre of Rainwater can be saved by 572 Government Schools in Gurugram District

Leak Fixing in Gurugram District by Water Proofing Team

Before

After

Before

After

Water Proofing Team

Model Roads

1. Sadar Bazar

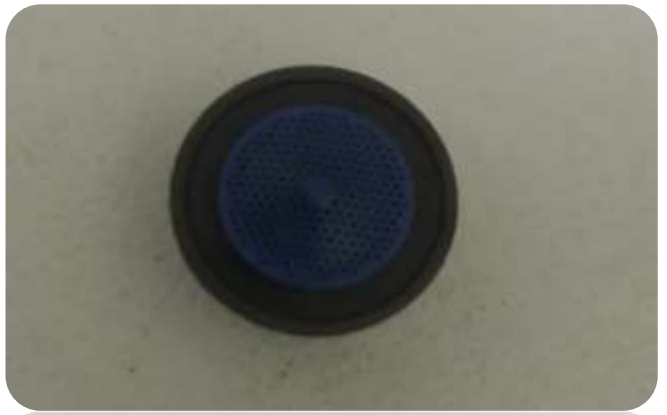
2. South City - 1

3. Sushant Lok

4. Chouma Road

5. Mt. Olympus School Road

Water leakage and Aerators



Aerators

gLOCAL
EVALUATION WEEK
Sharing local and global M&E knowledge

GuruJal
COLLABORATIVE . COMMITTED . CONSCIOUS

SUB-THEME 3:

VARIOUS TOOLS AND METHODOLOGIES DEVELOPED WITHIN GURUJAL FOR ITS TARGET OF RESTORATION AND REJUVENATION OF PONDS WITHIN GURUGRAM DISTRICT.

CONVENED BY:
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Centers for Learning on Evaluation and Results

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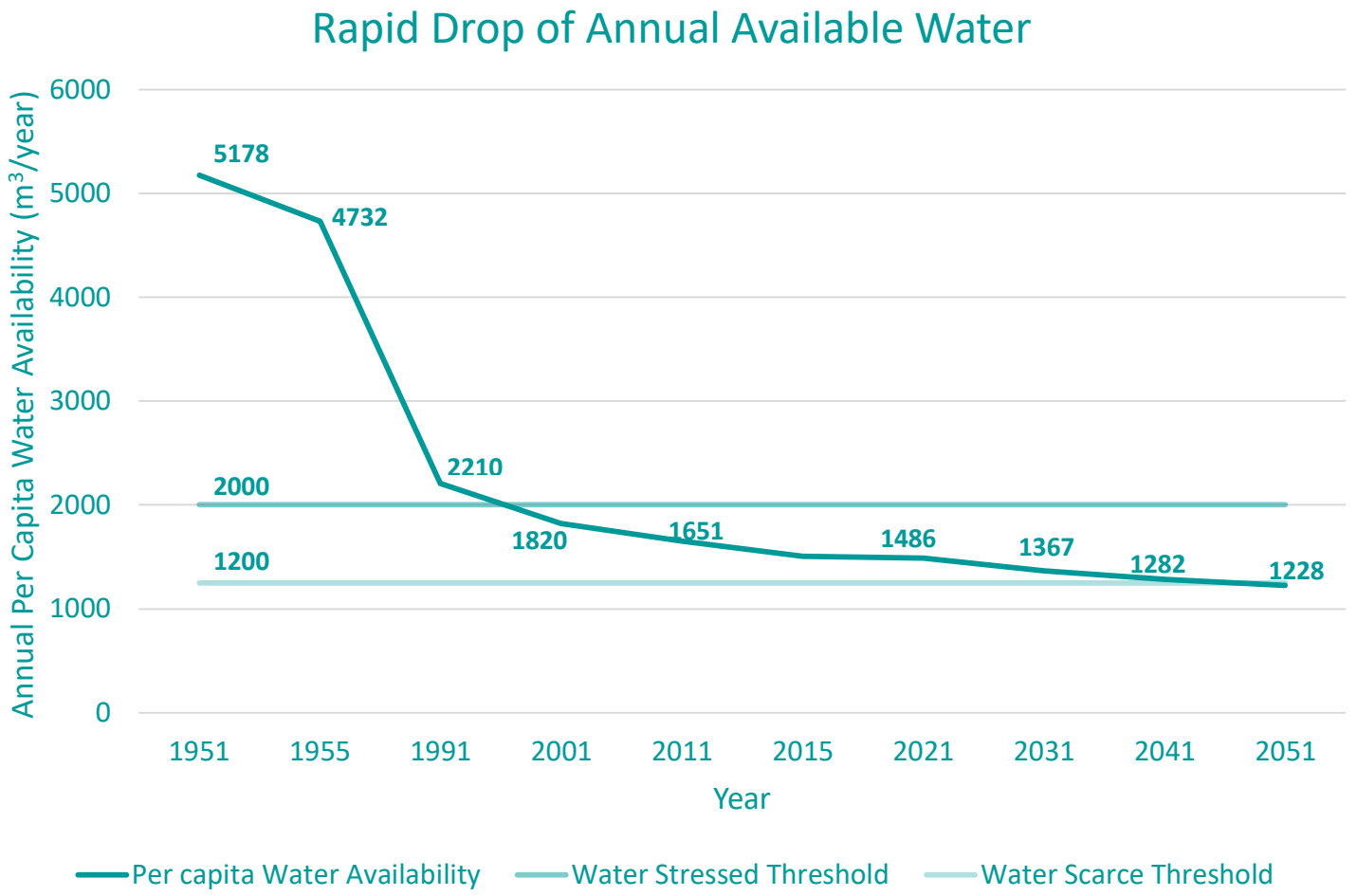
SUPPORT A POND

1. Conserving traditional ponds – converting nallas/water channels into Bio-recharge Zone

2. Treatment of the grey water received by installation of micro-STPs (natural systems)

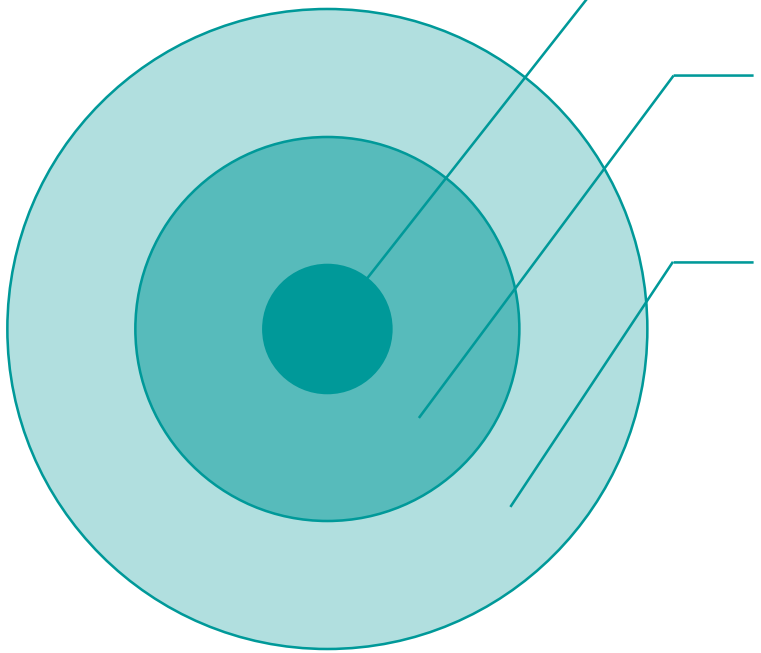
3. Developing a park around the site to recreate the value of the site

Available Water in India



Source: Down to Earth, 2020

Available Water in India



Water in Stagnant Bodies:

18.19 BCM

Total Surface Water:

623 BCM

Total Available Water:

1123 BCM

Source: Down to Earth, 2020

Importance of Ponds

- Ponds contribute to **26,000 to 62,000 m^3** to groundwater recharge over a year

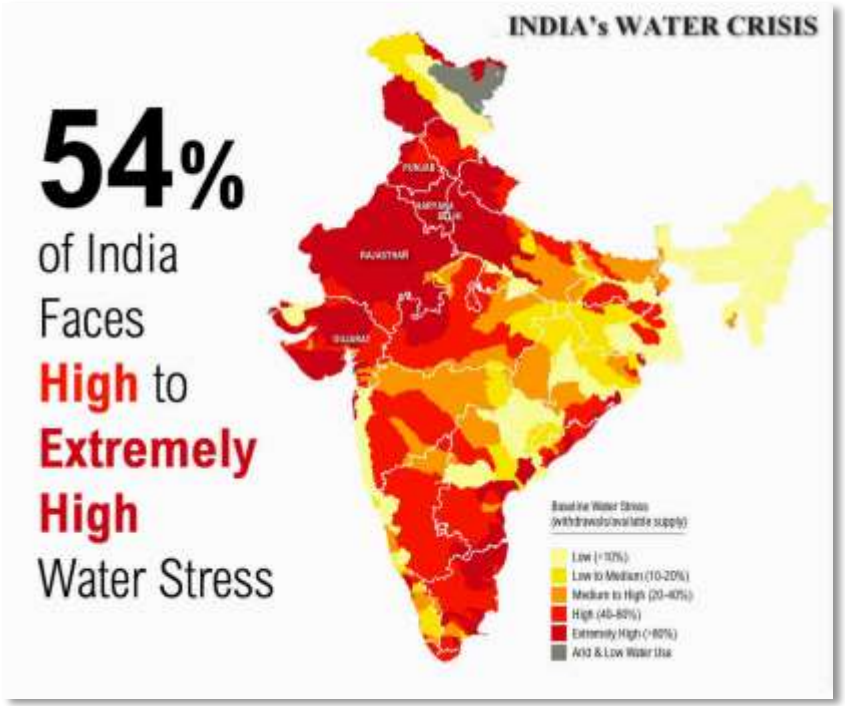
  = **1.2 – 3.6 %** of total ground water recharge

- Water Security

- Traditional Water Harvesting Structures

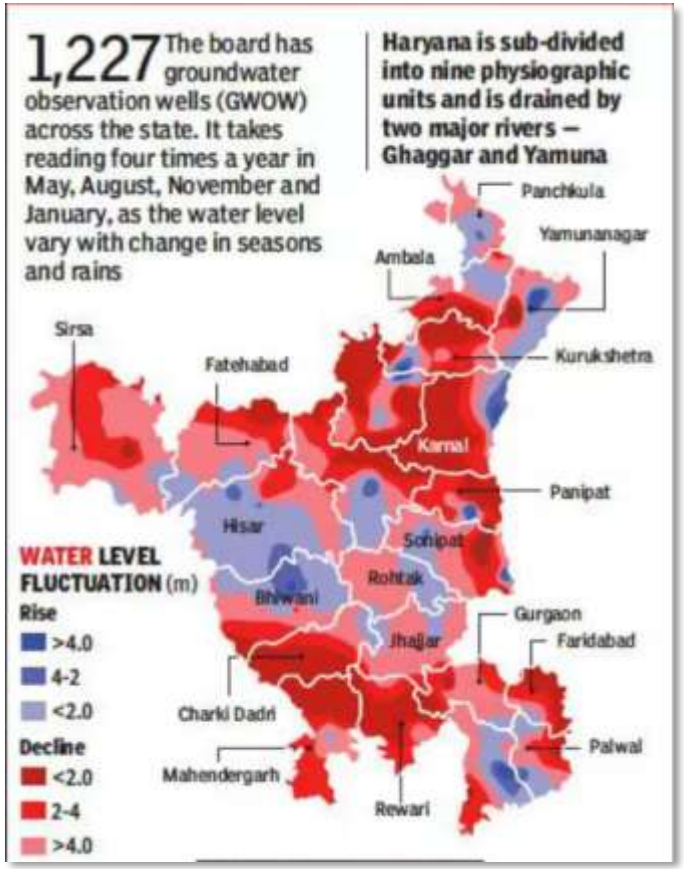
Source: Alam et. Al, 2020

The Water Crisis

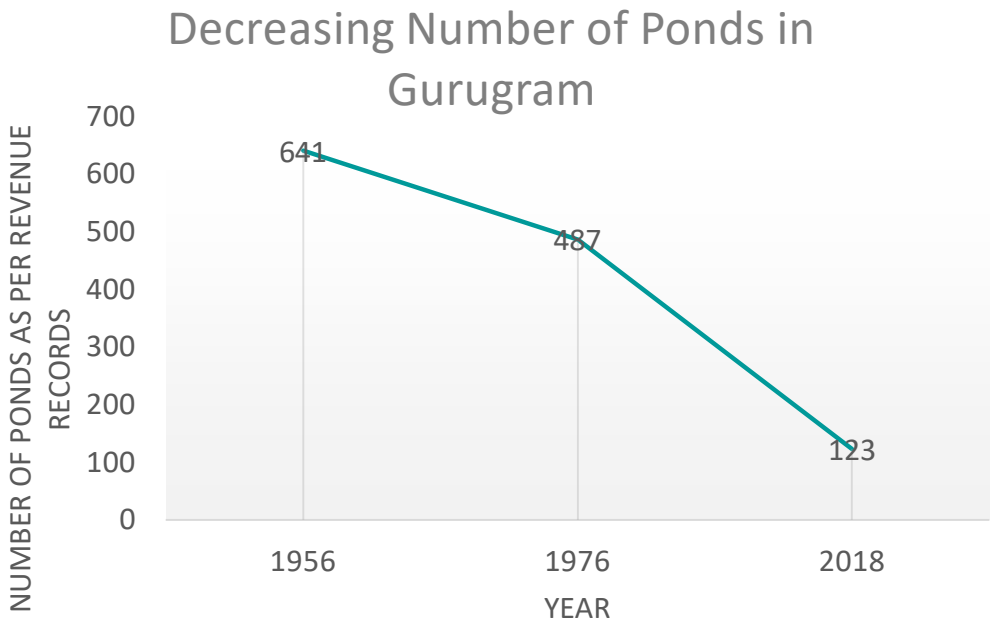


Source: World Resource Institute

Source: Times of India, 2019



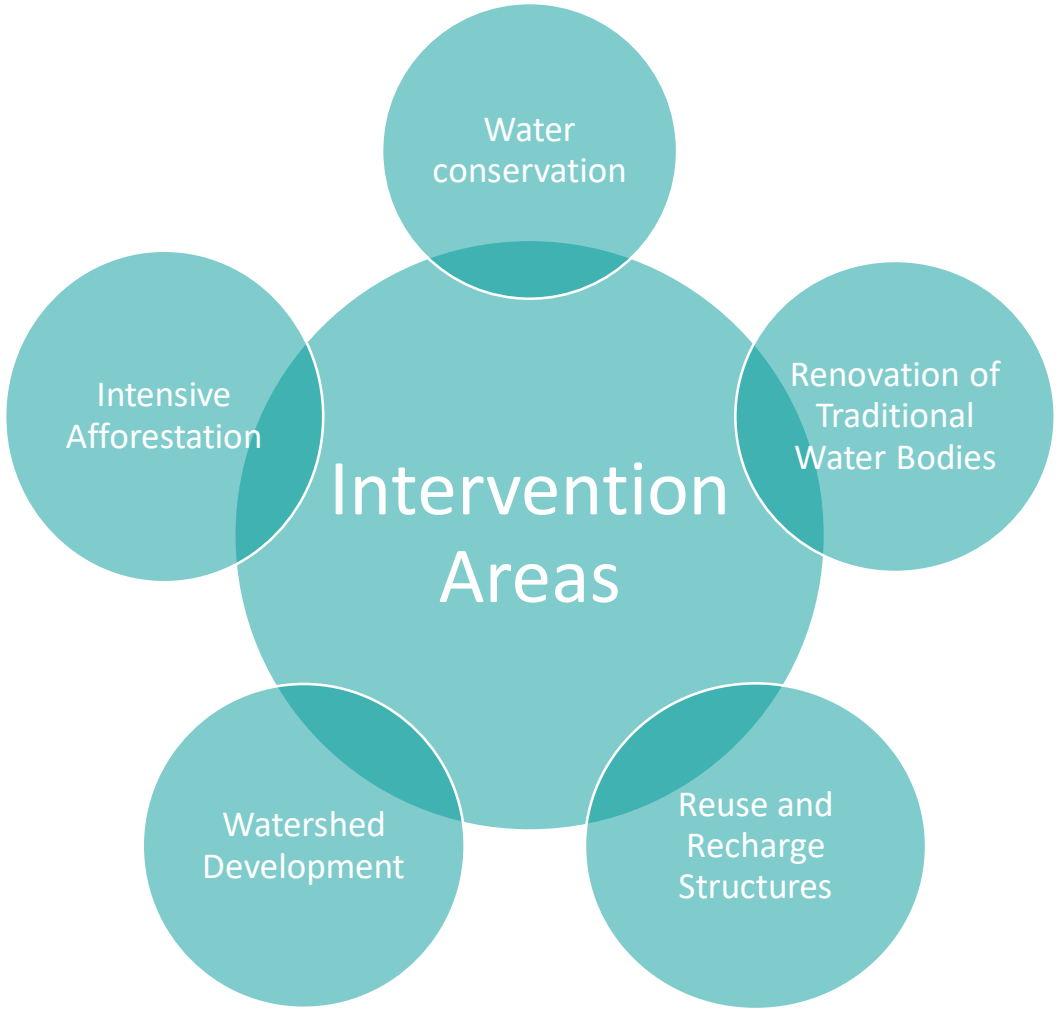
Disappearing Water Bodies



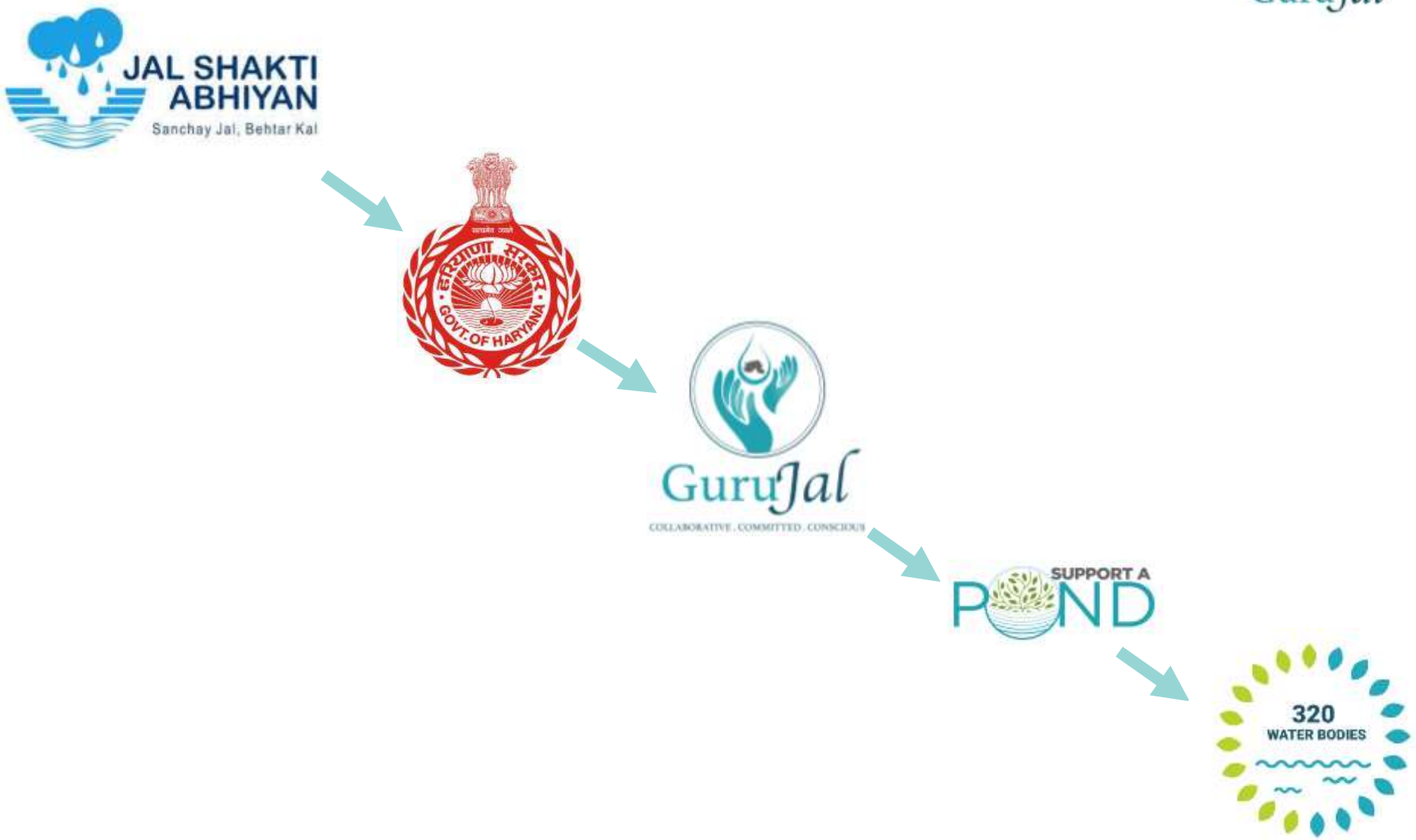
Source: Revenue Records, GMDA

Focus is on the 320 Water Bodies that exist in public ownership that can still be restored and to cross check the feasibility of 44 water logging sites , if they can be preserved as a pond site.

National Mandates



Renovation of Water Bodies

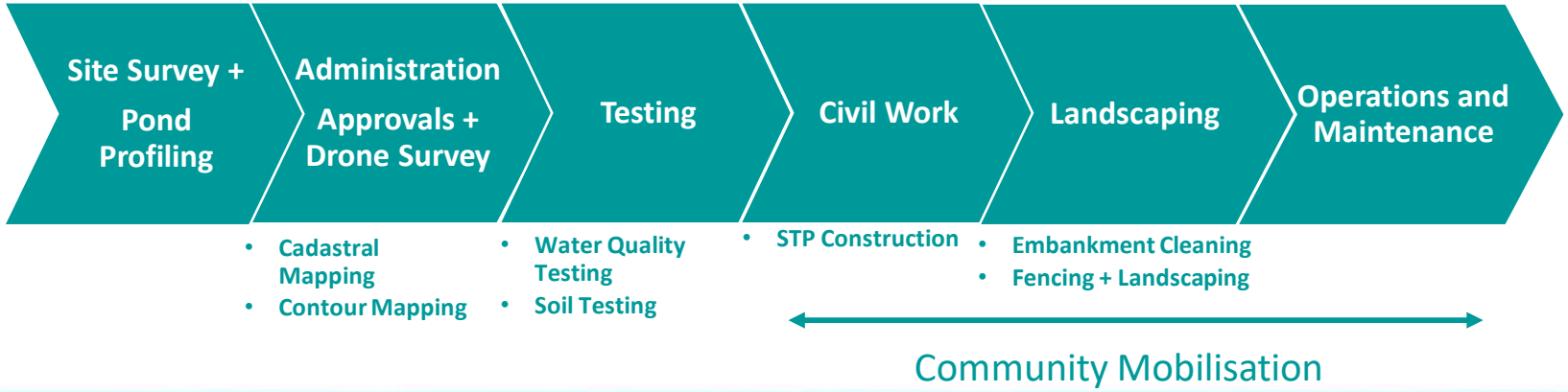


Objectives & Methodology

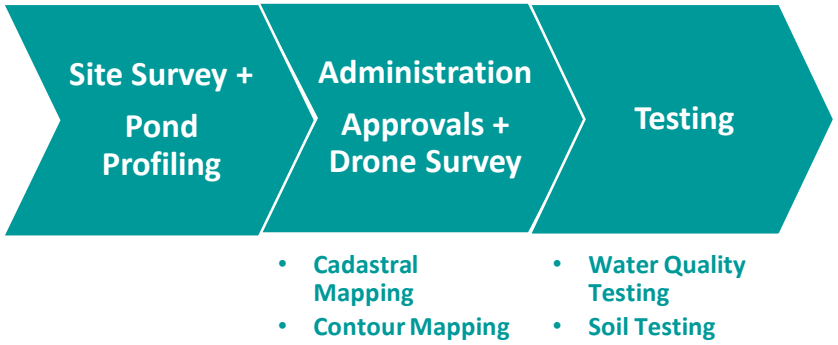
Objectives

- To rejuvenate pond by providing treatment of water
- To create Biodiversity Zone near Pond site
- To spread awareness among local community

Methodology: Application of 'Pond Rejuvenation Model'



Phase I: Pre-Studies



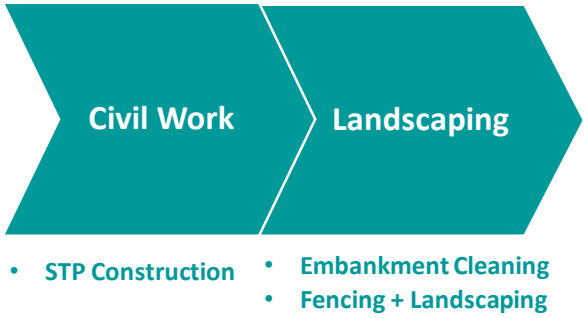
Key Questions

What are we measuring against? What standards are we refereeing to? What are our benchmarks?

How do we do incorporate sustainability in our designs?

Key Performance Indicators
Amount/ Flowrate of wastewater
Water Tests
Solid waste disposal rate
Rate of groundwater Extraction
Water Utilisation
Number of species of flora and fauna

Phase II: Construction



Key Questions

Is the intervention having an element of synergy with the local aesthetic? Does it ensure longevity?

Key Performance Indicators
Amount/Flowrate of Wastewater
Water Tests
Transportation of raw materials
Community Engagement - Workshops with BMC/ Pond Authority
Training of local authority
Fund Utilization/ Bill Payment
Removal rate of solid waste
Water Utilisation
Construction - Deadlines/ Timelines/Standards adhered

Phase III: Operations & Maintenance

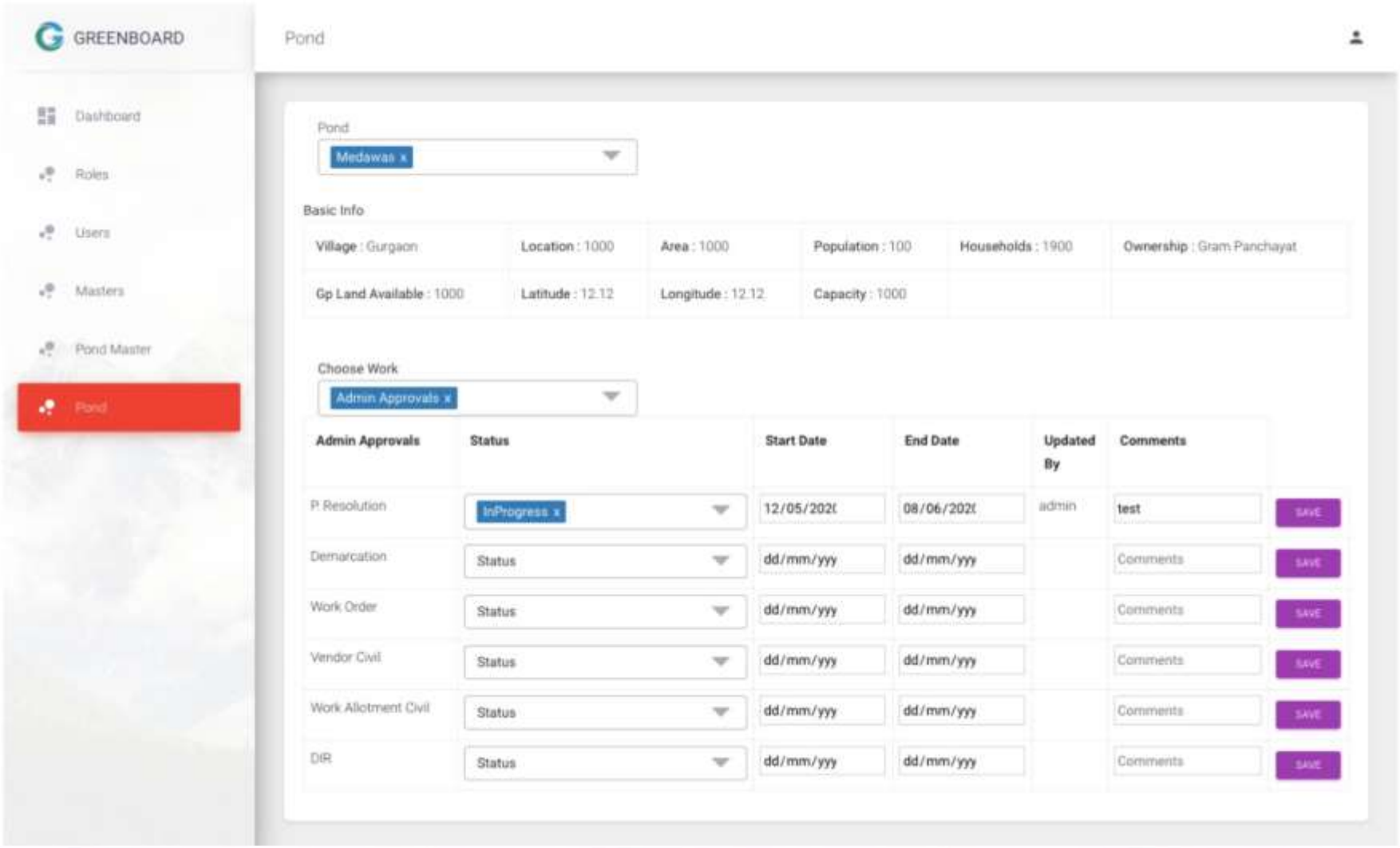
Key Questions

What are the ways that operations and maintenance can be self empowered and self sustained?

What are the benchmarks of operation that needs to be maintained?

Key Performance Indicators
Amount/Flowrate of Wastewater
Water Tests - Improvement of water Quality
Soil Test
Waste Management
Energy Consumption
Standards/ Protocols Adhered to
Rate of Ground water extraction
Water Utilisation
Transportation of raw materials that needs to be replaced
Operations and Maintenance – Supervision
Operations and Maintenance – Problem Reporting

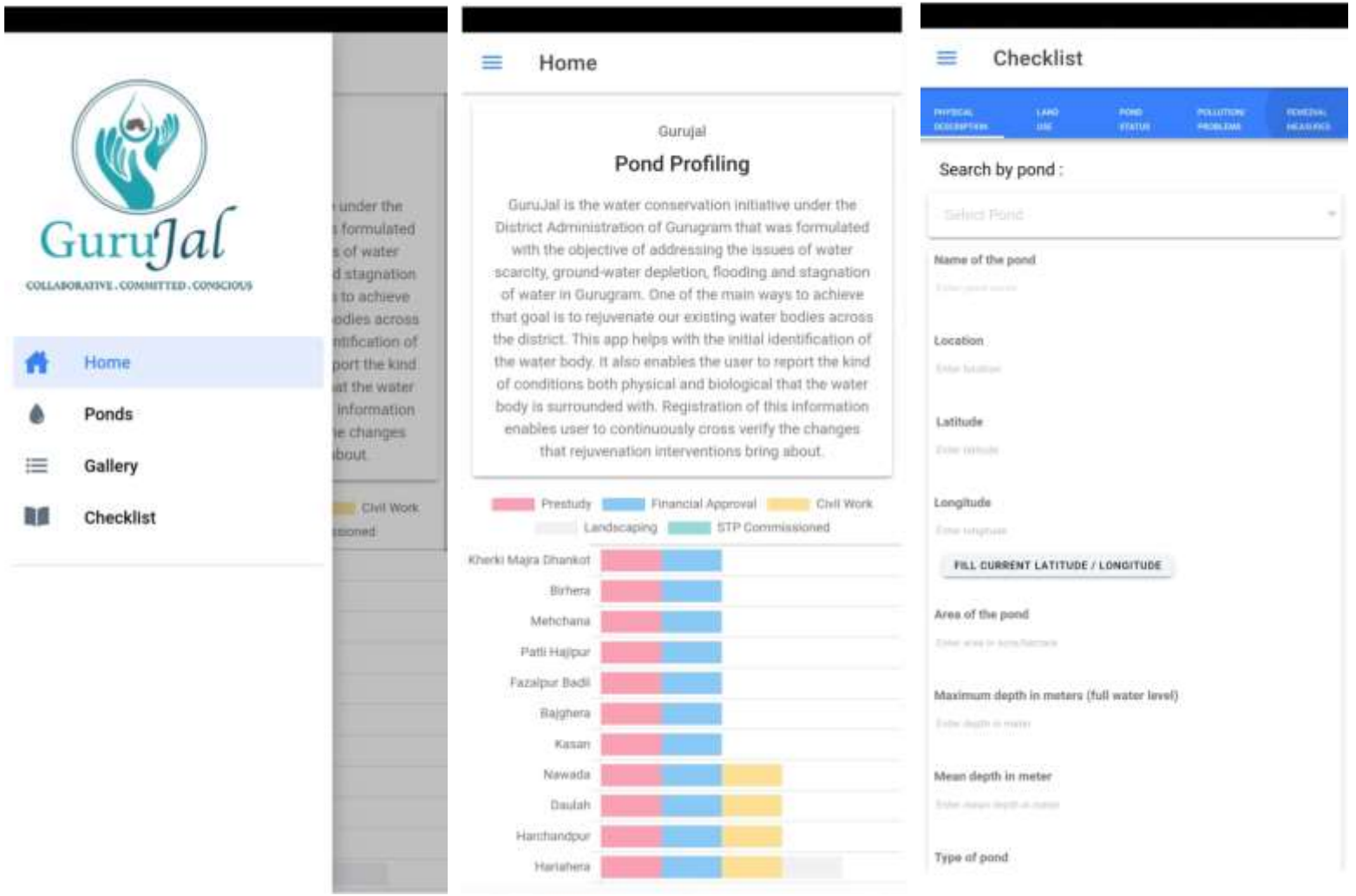
Dashboard/Critical Reviews



Dashboard/Critical Reviews

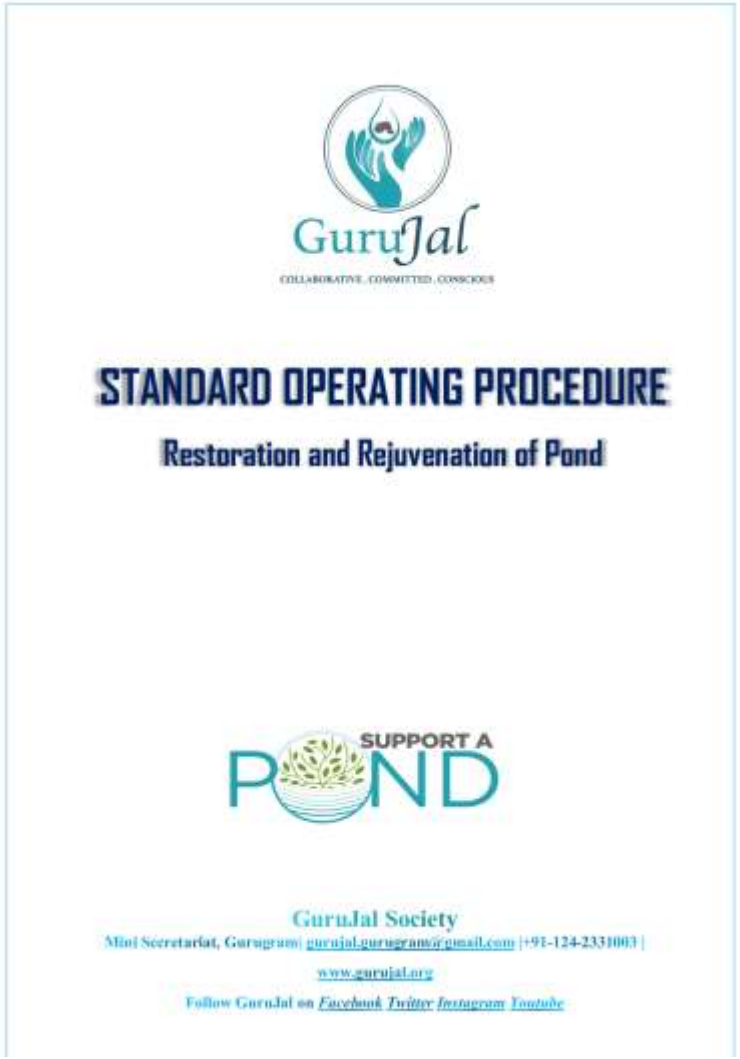
	Phase II - Construction												Support Required		
	Civil Work				STP					Landscaping					
Village	Site Cleaning	Dewatering	De-silting	Leveling	Screen Chamber	Settler Tank	STP - Tank	Filter Media	Connecting Drain	Pavement	Fencing	Plantation	Materials Require	Bill Status	Items
Khentawas	WIP	WIP	Not Required	WIP	Done	Done	Done	Done	Done	WIP	Not Done	Not Done	er+ Cement + Pe	Not Done	
Tajnagar	WIP	Not Done	Not Done	WIP	WIP	WIP	WIP	WIP	WIP	Not Done	Not Done	Not Done		Done	
Budhera	Not Done	WIP	WIP	Not Done	Not Done	Not Done	Not Done	Not Required	Not Done	Not Done	Not Done	Not Done		Not Done	Demarcation + P
Iqbalpur	WIP	Not Required	Not Required	WIP	Not Required	Not Required	Not Required	Not Required	Not Required	WIP	Not Done	Not Done		Done	
Dhaula	WIP	Not Done	Not Done	WIP	WIP	WIP	WIP	Not Done	Not Done	Not Done	Not Done	Done	Cement	Done	
Harchandrapur	Done	Not Done	Not Required	Done	Not Required	Not Required	Not Required	Not Required	Not Required	WIP	Not Done	Not Done		Done	
Hariahera	WIP	WIP	Not Done	WIP	Done	Done	Done	WIP	Not Done	Not Done	Not Done	Not Done	Cement + Pebbles	Done	
Bohra Kalan	WIP	Not Required	Not Required	Done	Not Required	Not Required	Not Required	Not Required	Not Required	Done	Done	Not Done		Done	
Mozamabad	Done	Not Done	Done	Done	Done	Done	Done	Done	Done	WIP	Not Done	Not Done	Bricks + Crusher	Done	
Bilaspur	Not Done	Not Done	Not Done	Not Done	Done	Done	WIP	WIP	Not Done	Not Done	Not Done	Not Done	Bricks + Crusher	Not Done	
Palasoli	Not Done	Not Done	Not Done	Not Done	WIP	WIP	WIP	Not Done	Not Done	Not Done	Not Done	Not Done	Cement		
Nawada	Not Done	Not Done	Not Done	Not Done	WIP	WIP	WIP	WIP	WIP	Not Done	Not Done	Not Done		Not Done	
Kasan	Not Done	Not Done	Not Done	Not Done	WIP	WIP	WIP	WIP	WIP	Not Done	Not Done	Not Done		Not Done	

Pond App Development



On-Field Monitoring

Documentation



GuruJal

COLLABORATIVE . COMMITTED . CONSCIOUS

STANDARD OPERATING PROCEDURE

Restoration and Rejuvenation of Pond

SUPPORT A POND

GuruJal Society

Mini Secretariat, Gurugram| gurujal.gurugram@gmail.com |+91-124-2331003 |

www.gurujal.org

Follow GuruJal on *Facebook Twitter Instagram Youtube*

gLOCAL
EVALUATION WEEK
Sharing local and global M&E knowledge

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SUB-THEME 4:

THE NEED FOR INCREASING THE GREEN COVER AS AN ACTIVE STEP FOR ECOLOGICAL CONSERVATION AND THE VARIOUS FACTORS THAT ARE DIRECTLY AND INDIRECTLY LINKED TO WATER CONSERVATION.

CONVENED BY:
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Centers for Learning on Evaluation and Results

BIODIVERSITY MANAGEMENT

FOREST COVER OF INDIA

According to **India State of Forest Report (ISFR)** published by **Forest Survey of India (FSI)** in December **2019**. The total forest cover of the country, as per the current assessment is 7,12,249 sq. km which is **21.67%** of the total geographic

01 Very Dense Forest (3.02%)

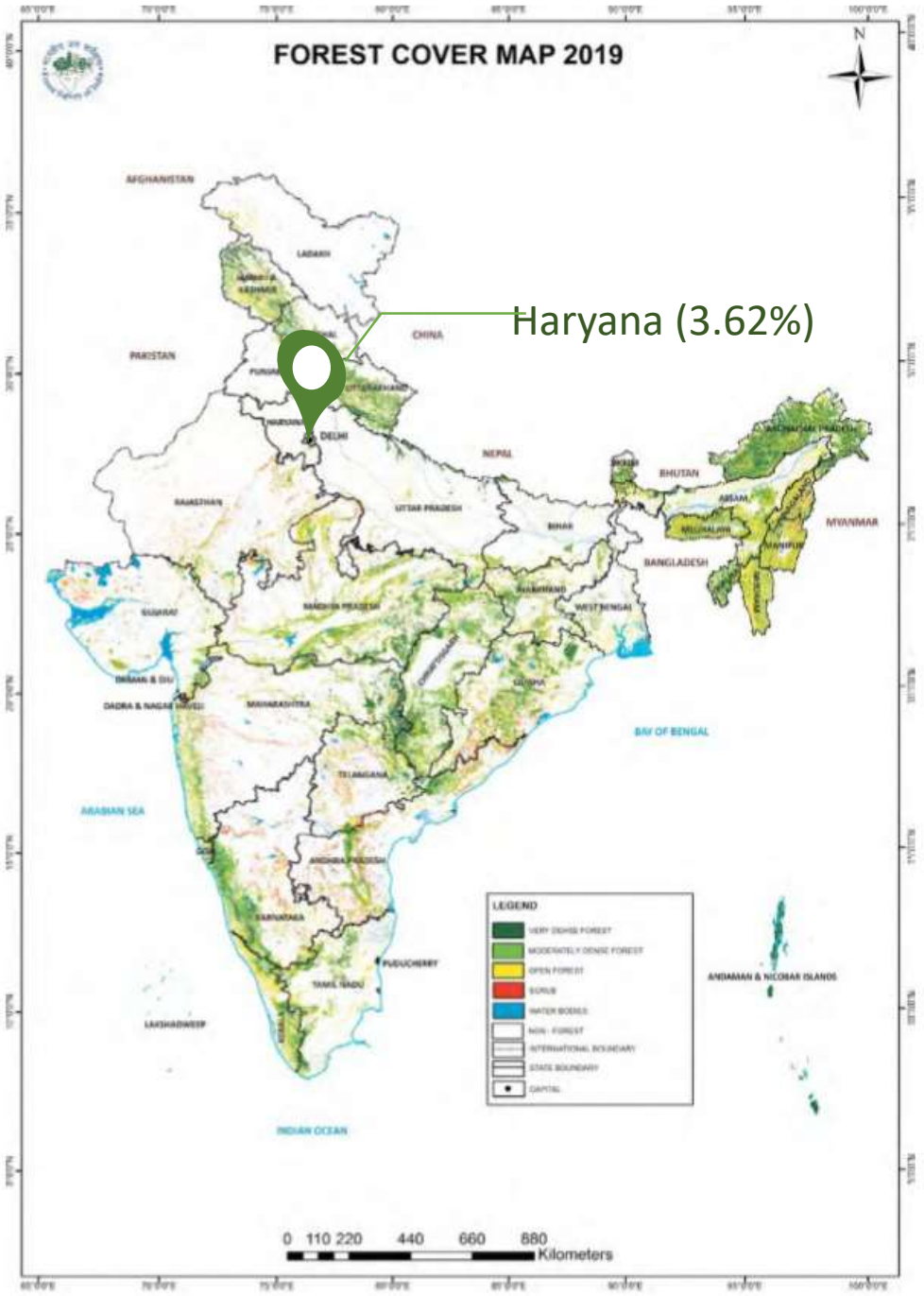
Canopy Density - >70%

02 Moderately Dense Forest (9.39%)

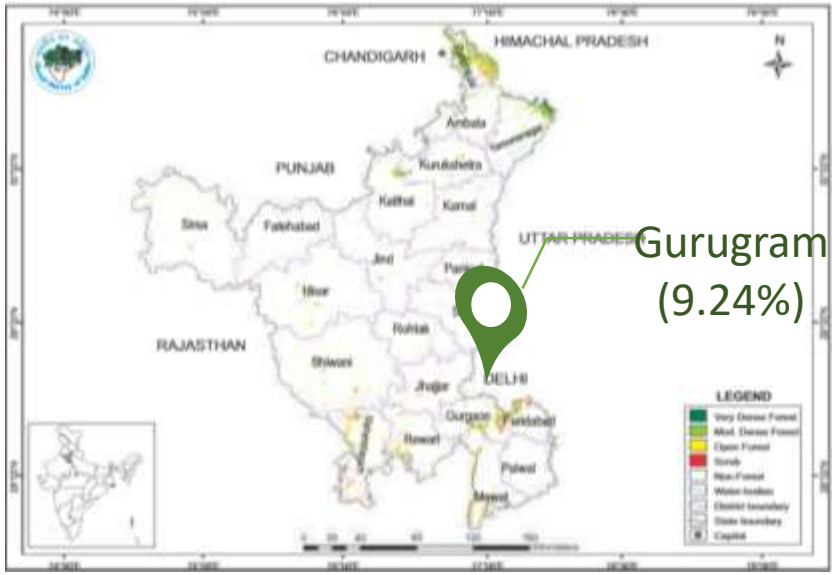
Canopy Density – 40-70%

03 Open Forest (9.26%)

Canopy Density – 10-40%



FOREST COVER MAP OF HARYANA 2019



FOREST COVER IN HARYANA

Forest cover rose by **14.44 square kilometres** i.e., **0.03%**

2017

Forest cover comprising 3.59% of its total **area**.

2019

Forest cover comprising 3.62% of its total **area**.

FOREST COVER IN GURUGRAM

Moderately dense forest – 33.7 sqkm

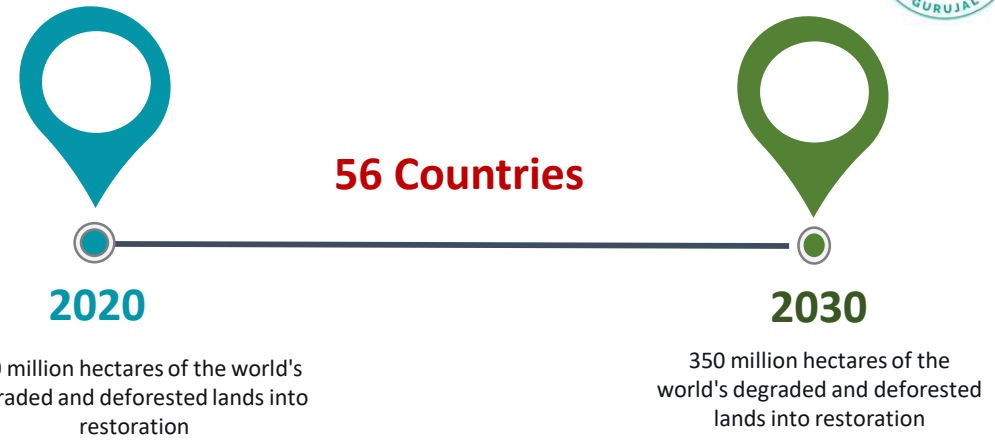
Open forest - 82.5 sqkm

Scrub land - 17 sqkm

GLOBAL AND NATIONAL MANDATES

BONN CHALLENGE

Launched in **2011** by **the Government of Germany** and **IUCN**, and later endorsed and extended by the **New York Declaration on Forests at the 2014 UN Climate Summit**.



As per commitment made by India under the **Bonn Challenge**, an area of **21 million ha** of degraded land will be restored by **2030**.

Ministry of Environment, Forest & Climate Change

National Forest Policy, 2018

Target - 33% of India's total geographical area under **Forest cover**

JAL SHAKTI ABHIYAN
Sanchay Jal, Behtar Kal

Jal Shakti Abhiyan, 2019

Target – Intensive Afforestation

BIODIVERISTY MANAGEMENT

BIODIVERISTY MANAGEMENT

PLAN 1

LANDSCAPING

SUPPORT A POND

TARGETS

Number of ponds :- 320 pond in both Urban and Rural area of Gurugram District

Total Area :- 260 Acres (~ 105 ha)

Plantation ~ 1 lakh Plants

TARGETS

Number of Biodiversity Parks :- 2

Total Area :- 800 Acres (~ 324 ha)

Plantation ~ 3.5 lakh Plants

PLAN 2

BIODIVERSITY PARKS

PLAN 3

URBAN CITY FOREST

TARGETS

Number of Urban City Forest :- 1

Total Area :- 2,000Acres (~ 810 ha)

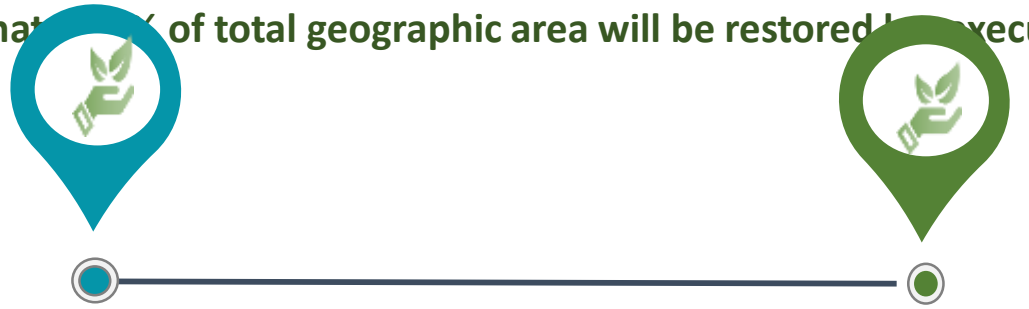
Plantation ~ 8 lakh Plants

OVERALL TARGET OF BIODIVERSITY MANAGEMENT

Total area of approximately **1239 ha (~3,060 Acres or 12.39 sq. km)** of degraded land will be restored in Gurugram District.

Total geographical area of Gurgaon district = **1,258 Sq.km**

Therefore, Approximat[illegible]% of total geographic area will be restored b[illegible]xecuting all the 3 plans



Now

9.24% forest cover of total geographical area

Later

10.24% forest cover of total geographical area

Forest Department

Revenue Department

Urban Local Bodies (ULBs)

District development panchayat office

Rural Development Department

Biodiversity Management Committee (BMC)

Horticulture Department

POND LANDSCAPING

AIM OF LANDSCAPING

To create a Biodiversity Zone around the pond area to sustain local natural life (aquatic, avifauna, and terrestrial) and to maintain the Cultural and Aesthetic

OBJECTIVES

WATER PURIFICATION BY NATURAL WAYS

AIR PURIFICATION

POND VALUE RECREATION

WASTE MANAGEMENT

ECOLOGICAL BALANCE

RESOURSES – LOCAL COMMUNITY AND VARIOUS DIFFERENT DEPARTMENTS

Forest Department – Plantation (Provide native plants for each site)

Rural Development Department – MGNREGA Labours

CONCEPTUAL PLAN

As from the conceptual diagram, we realised tht the pond is the connection between two dense villages, aand is located on the side of the only road which connects two major villages. Therefore, plays an important role not only now but in the history of the village.
The idea of landscaping derives from the same idea, where we have tried to make pond an important focal point, and an amalgamation of different activities including social, cultural and play. Where the pond becomes the social piazza as a multi functional space which is able to host local fairs, markets, and events, to the enclosed green cultural space with seating leading to the kids play area and open gynasium.

TITLE
RECTIFICATION AND LANDSCAPING OF POND : **MOZABAD**

DWG NO : eco_lan_mza_01 | REV: 00
DWG STATUS : Conceptual | SIZE: A2

REVISIONS

Rev no	Change name	Date

DATE : 02-03-2020
SCALE : 1:200
All the dimensions are in mts

CLIENT NAME : Gurujal, Gurugram
ADDRESS : Mozabad, Gurugram

DESIGNED BY :
Ar. Mayank Chaurasia
CA/2017/81460
(Msc. Building & Architecture Engineering)
LEED GA : USGBC

Ar. Priyanshi Singhal
CA/2017/81389
(Msc. Built Environment & Architecture)
LEED GA : USGBC

ecosphe
Sustainable Design Workshop

LANDSCAPING PLAN

PHASE I

PHASE II

SUPPORT A POND

POND LANDSCAPING & BEAUTIFICATION

Gurujal

Location :
Gurugram

Area :
1 Acres

Estimated Cost :
4.44 Lakhs

India is one of the biggest consumer of freshwater in the world today.

Only 30 percent of India's wastewater is recycled.

Nearly 70 per cent of India's wastewater goes directly into rivers.

21 per cent of country's diseases are water related.

There are natural parks with moisture paved area and maximising greens to encourage the bio diversity. Grasslands with seating and walkways for silent and meditative walks are created.

Kids outdoor area play an important part in landscaping, playgrounds and natural play zones are created around the trees with outdoor gym and sports equipments.

Different types of gardens to educate or provide knowledge to the local community about herbal or medicinal plants, butterfly garden and to encourage local biodiversity around the pond.

Rejuvenation of the pond started with the idea of providing different kind of spaces to host all kind of people and also having flexible spaces which can be transformed for festival fairs, events etc.

These spaces are transformed into the social public spaces for the family outings and gatherings to bring people closer to nature, by looking at trees, flowers, growing plants and observing seasonal differences.

OBJECTIVES OF LANDSCAPING

- To create a biodiversity zone around the pond area to sustain local natural life.
- Adopting the sustainable measures to use our resources efficiently.
- To rejuvenate water bodies & transform into socially active public spaces.
- To maintain the Cultural and Aesthetic values of villages.
- To maximise the rain water retention and to reduce the heat island effect.
- To create a joyful environment and give the residents a healthy atmosphere.

No of trees: 181
No of shrubs: 75
Green Area: 2970 sqm
Paved Area: 540 sqm
No of benches: 8

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तालाब भूनर्िमाण और सौंदर्यीकरण

स्थान :

क्षेत्रफल :
1 एकड़

अनुमानित लागत :
4,44 लाख

भारत जल दुर्लभ में सबसे बड़ा उपभोक्ता है

भारत के अपशिष्ट जल का केवल 30 प्रतिशत पुनर्चक्रित किया जाता है।

भारत का लगभग 70 प्रतिशत अपशिष्ट जल सीधे नदियों में प्रवाह होता है।

देश की 21 प्रतिशत बीमारियाँ पानी से संबंधित हैं।

जैव विविधता को प्रोत्साहित करने के लिए न्यूनतम पक्के क्षेत्र और अधिकतम हरित के साथ प्राकृतिक पार्क हैं। बैठने के लिए घास के मैदान और शांत और ध्यान के लिए पैदल मार्ग बनाए जाते हैं।

बच्चों के बाहरी खेल भूनिमार्ण में एक महत्वपूर्ण भूमिका निभाते हैं, खेल के मैदान और प्राकृतिक खेल क्षेत्र आउटडोर जिम और खेल उपकरणों के साथ पेड़ों के आसपास बनाए जाते हैं।

विभिन्न प्रकार के बगीचे शुरुवत या औषधीय पौधों, तितली उद्यान के बारे में समुदाय समुदाय को शिक्षित करने या ज्ञान प्रदान करने और तालाब के आसपास स्थानीय जैव विविधता को प्रोत्साहित करने के लिए बनाए जाते हैं ।

कुछ तालाब लोग के मिलने को इकट्ठा करते हैं, जिससे स्थान इकट्ठा करते हैं, और उद्देश्य के लिए ओपन एयर थिएटर जैसा एक लेख है, जो कुछ ही समय में दुकानों, मेलों और अन्य सुविधाओं में परिवर्तित हो सकता है।

ये स्थान पेड़ों, फूलों, पौधों को देखकर और मौसमी मतभेदों को देखते हुए, लोगों को प्रकृति के करीब लाने के लिए पारिवारिक समारोहों और सामारोहों के लिए सामाजिक सार्वजनिक स्थानों में बदल जाते हैं।

भूनिमाण के उद्देश्य

- स्थानीय प्राकृतिक जीवन को बनाए रखने के लिए तालाब क्षेत्र के आसपास एक जैव विविधता क्षेत्र बनाना
- हमारे संसाधनों का कुशलता से उपयोग करने के लिए स्थायी उपायों को अपनाना।
- जल निकायों का आनवीकरण करने और सामाजिक रूप से सक्रिय सार्वजनिक स्थानों में बदलने के लिए।
- गांवों के सांस्कृतिक और सौंदर्य मूल्यों को बनाए रखने के लिए
- वर्षा जल प्रतिधारण को अधिकतम करने और ऊर्जा द्वीप प्रभाव को कम करने के लिए।
- एक सुखद वातावरण बनाने और निवासियों को एक स्वस्थ वातावरण देने के लिए।

धीईओ जिला परिषद् / वन विभाग को प्रस्तावित

पौधों की संख्या (पेड़ और झाड़ियाँ)189

मनरेगा को प्रस्तावित
मजदूर

15 वें वित्त आयोग को प्रस्तावित

हरित क्षेत्र	2970	66528/-
पक्का क्षेत्र	540sqfeet	1,96018/-
पेड़ लगाना	100sqfeet	1,50000/-
अस्थायी द्वीप	8 sqm	20000/-
बेंच	8 sqm	12800/-
पिंत	100sqfeet	2352/-

कुल 4.44 लाख

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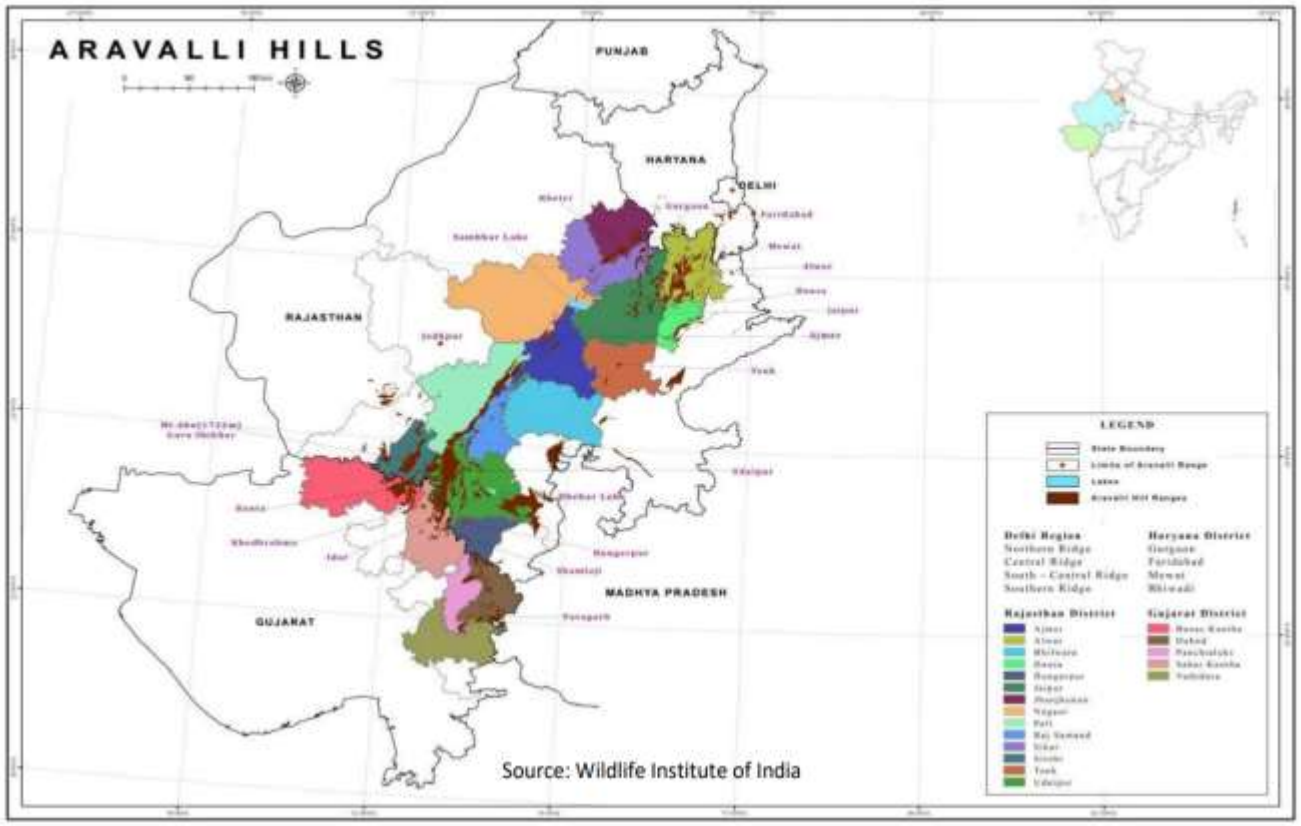
ARAVALLI RANGES

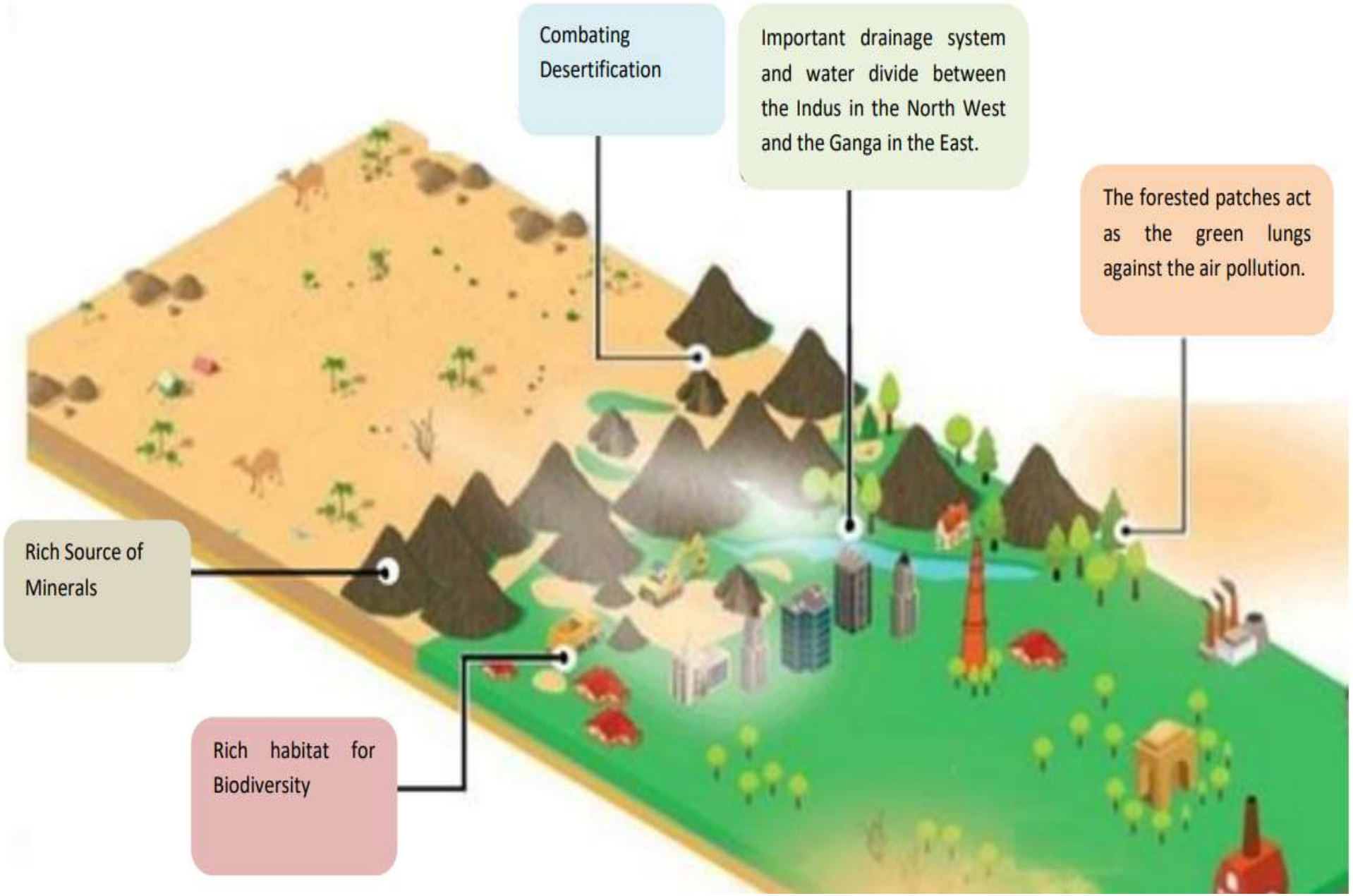
- The Aravalli hills of India are the oldest mountain range on earth.
- The Aravalli Range is a mountain range in Northwestern India, running approximately 692 km in a south-west direction, starting near Delhi, passing through southern Haryana and Rajasthan, and ending in Gujarat.



MAJOR THREATS TO ARAVALLI RANGE:-

- DEFORESTATION
- LAND DEGRADATION
- ENCROACHMENTS
- DEVELOPMENTAL ACTIVITIES
- MINING

WHY CONSERVATION AND PROTECTION OF ARAVALLI HILLS ARE IMPORTANT?



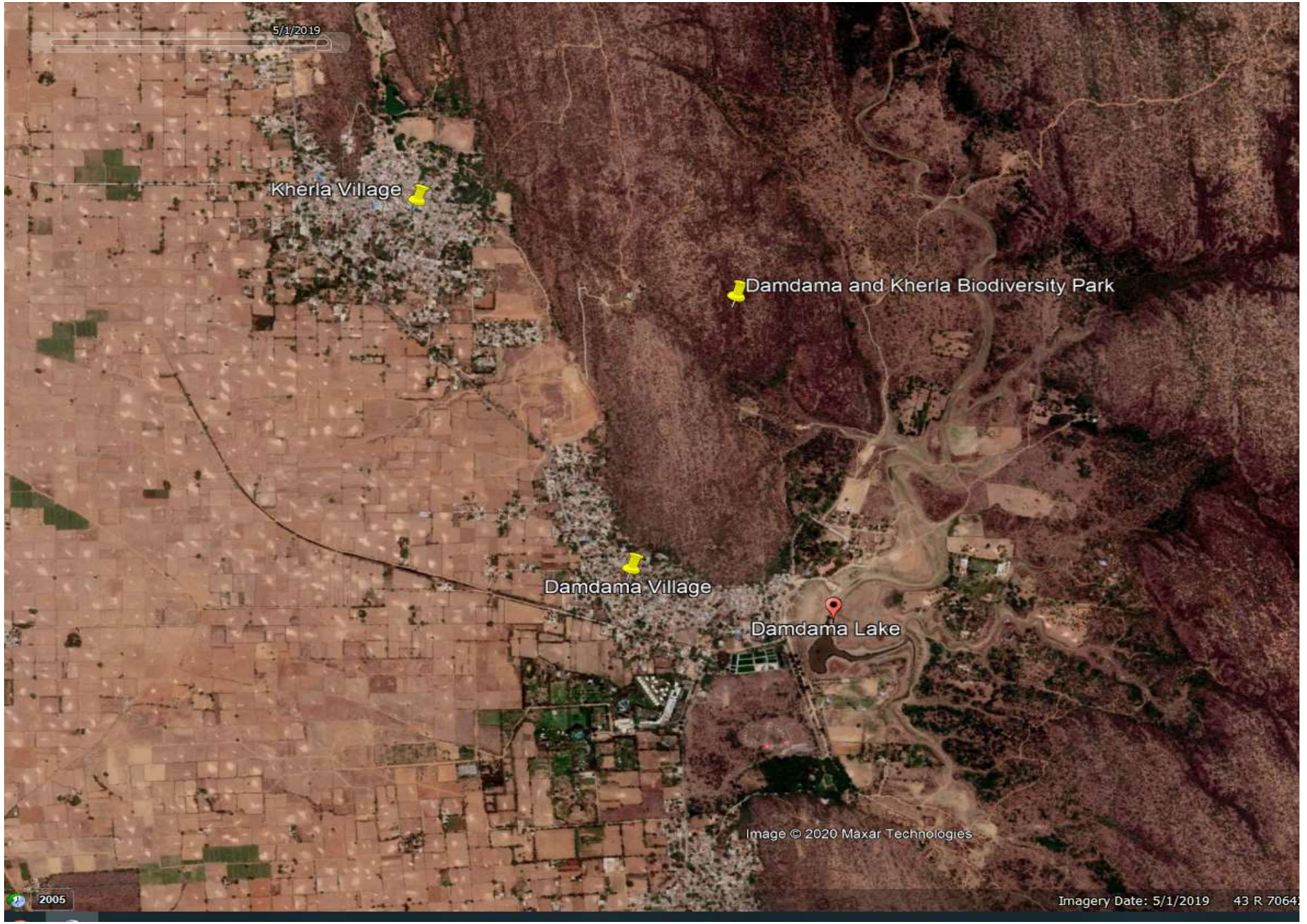
BIODIVERSITY PARKS

Gurugram is developing one of the largest green spaces in the panchayat land located in Aravalli hills of **Kasan, Damdama and Kherla village.** The requisition of plots for the development of Biodiversity Parks were done under **Jal Shakti Abhiyan** suggested by **Hon'ble CM of Haryana**.

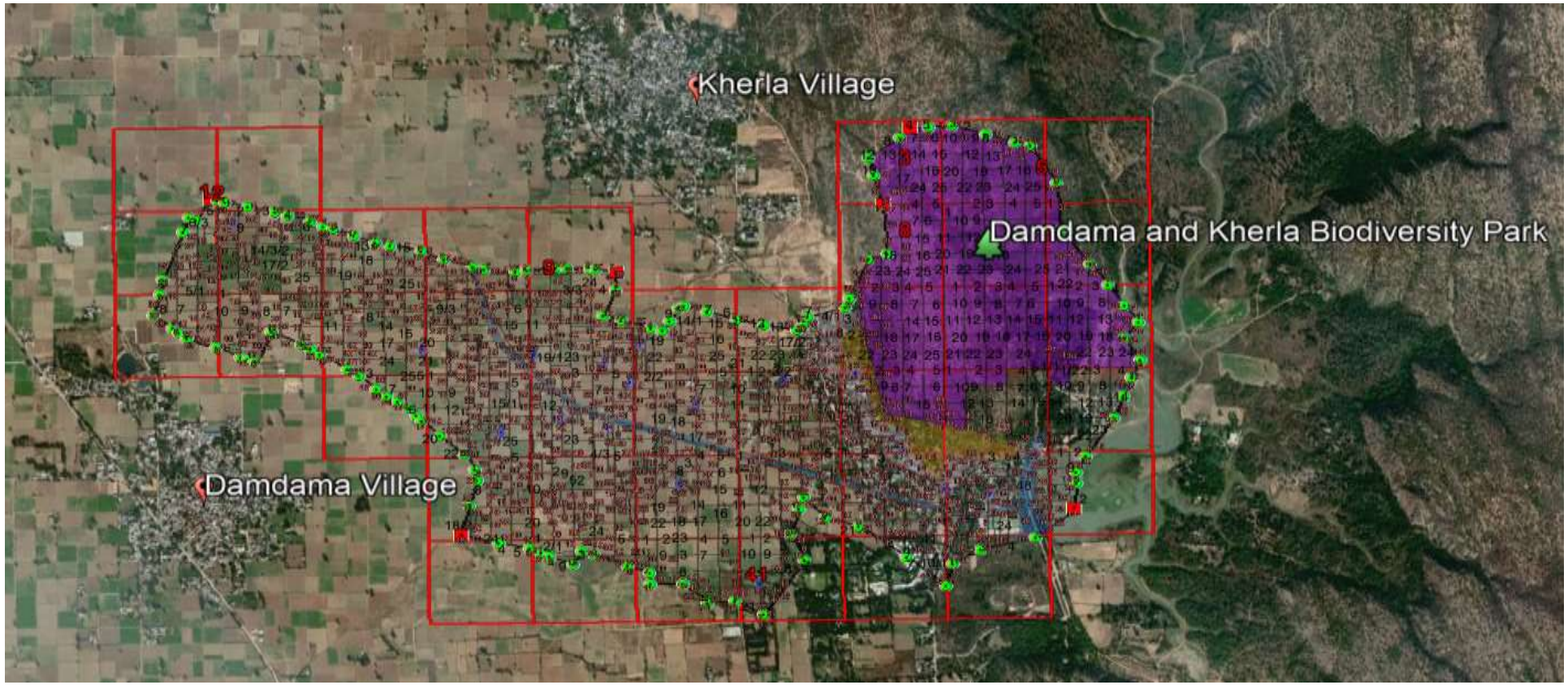
OBJECTIVES

- Conserve the flora and fauna of the area
- Enhance the air, soil and water quality; prevent soil erosion
- of the area and/or enhance the quality of the urban environment
- Serve as a hub for education, cultural and conservation
- activities
- Promote Eco-Tourism
- Act as a carbon sequestration source for Gurugram District and

DAMDAMA AND KHERLA BIODIVERSITY PARK



DAMDAMA AND KHERLA BIODIVERSITY PARK



The total Geographical Area (GA) of Gurugram District is **1258sq.km** out of which **116.18 sq.km** is the green cover area i.e., only **9.24%** of the total geographical area. so, after developing this park, we can restore approximately **2.02 sq.km** degraded land.

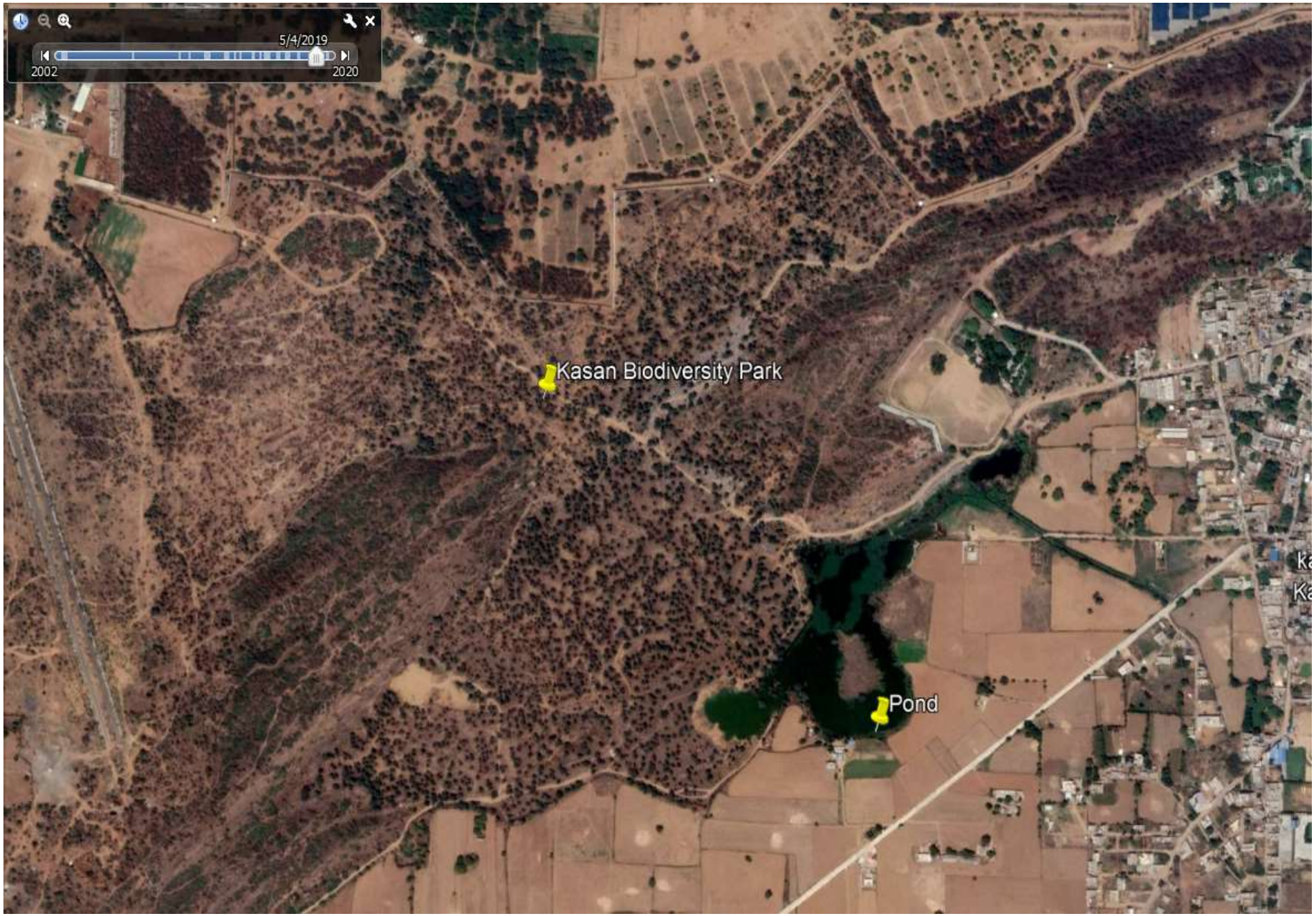
Location: 28.307524°, 77.125501°

Area: ~ 500 Acres (202 ha)

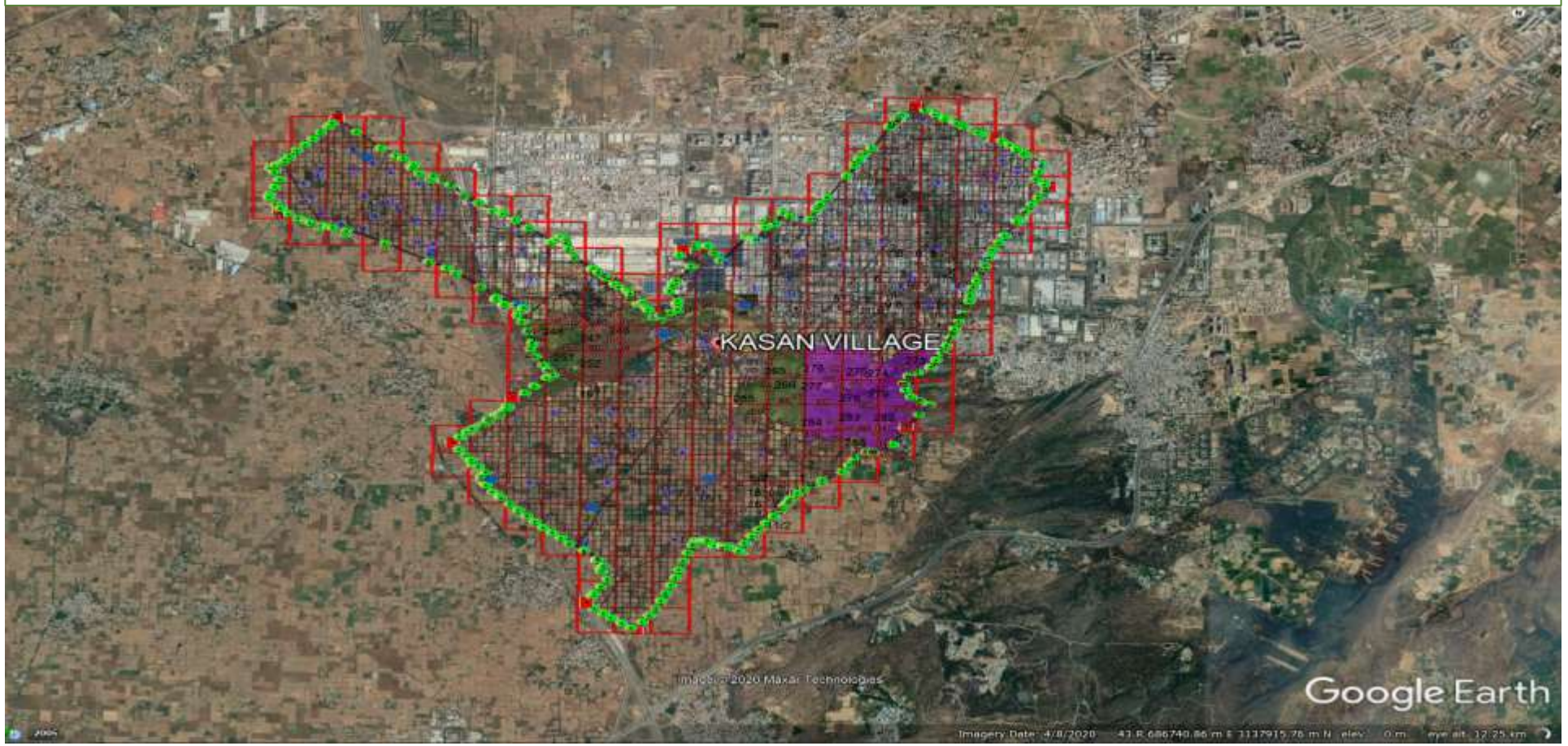
Population: Damdama~ 3600+, Kherla ~5200+

Households: Damdama ~ 600+ Kherla ~900+

KASAN BIODIVERSITY PARK



KASAN BIODIVERSITY PARK



The total Geographical Area (GA) of Gurugram District is **1258sq.km** out of which **116.18 sq.km** is the green cover area i.e., only **9.24%** of the total geographical area. so, after developing this park, we can restore approximately **1.21 sq.km** degraded

Location: 28.355847, 76.899447
Area: ~) 300 Acres (121 ha
Population of Kasan village: ~ 12,000+
Households: ~3500
Distance from Gurugram: ~ 16 km

ONE – PAGERS OF BIODIVERSITY PARKS

DAMDAMA AND KHERLA BIODIVERSITY PARK

जल शक्ति अभियान

GURUGRAM'S LUNGS

Location :
28.307524°, 77.125501°

Area –
500 Acres (202 ha)

Population of Kasan Village –
Damdama – 3600+
Kherla –5200+

Households –
Damdama – 600+
Kherla – 900+

Distance from Gurugram –
25 km

Estimated Cost –
50 crore

On an average,

1 tree produces =
Nearly 260 pounds of oxygen each year.

1 Acre of trees =
Produces enough oxygen for 18 people to breathe for a year.

300 Acres of trees =
Produces enough oxygen for 5400 people to breathe for a year.

Gurugram is developing one of the largest green spaces in the panchayat land located in Aravalli hills of **Damdama and Kherla village.** The requisition of plots for the development of Biodiversity Parks were done under **Jal Shakti Abbhyan** as suggested by hon'ble CM of Haryana.

Damdama and Kherla villages are located in the foothills of Aravallis in Sohna block of Gurugram District which is approximately 25 km away in South-East direction from the district headquarter Gurugram.

(AS SEEN IN 2010)

(CURRENT 2020)

As per commitment made by India under **Bonn Challenge**, an area of 13 million hectares of degraded land will be restored by 2020 and another 13 million hectares by 2030.

The Bonn Challenge is a global effort to bring 150 million hectares of deforested and degraded land into restoration by 2020 and 350 million hectares by 2030.

OBJECTIVES

- Conserve the flora and fauna of the area
- To develop as a good oxygen supplement for the NCR
- To develop recreation space for the local community
- Serve as a hub for education, cultural & conservation activities
- Enhance the air, water and soil quality; prevent soil erosion of the area and/or enhance the quality of the urban environment
- Act as a carbon sequestration source for Gurugram District and prevent adverse environmental conditions (adaptability to climate change)

Approximately **2.5 lakh** native plants will be planted in Damdama and Kherla Biodiversity Park

The Geographical Area of Gurugram District is **1258 sq.km.** out of which **116.18 sq.km.** is the green cover area i.e. only **9.24%** of its geographical area. After the development of this park, approximately **2.02 sq.km** degraded land can be restored.

CLASS	AREA (SQ. KM)	%AGE OF GA
Very dense forest	0.00	0.00
Moderately dense forest	33.69	2.68
Open forest	82.49	6.56
Total	116.18	9.24

Table : Total green cover of Gurugram District

DEVELOPMENT MODEL

- Forest landscape restoration model
- Plantation drives and species selection
- Survey, demarcation and closure of the area
- Soil and moisture conservation work
- Protection and silvicultural operations
- Wildlife habitat management

An initiative by

GuruJal

Supported by
District Forest Office, Gurugram
District Development and Panchayat Office, Gurugram

Visit : www.gurujal.org

For more details, please contact : admin@gurujal.org 0124-2331003

KASAN BIODIVERSITY PARK

जल शक्ति अभियान

GURUGRAM'S LUNGS

Location :
28.355847°, 76.899447°

Area –
300 Acres (121 ha)

Population of Kasan Village –
12,000+

Households –
3500

Distance from Gurugram –
16 km

Estimated Cost –
40 crore

On an average,

1 tree produces =
Nearly 260 pounds of oxygen each year.

1 Acre of trees =
Produces enough oxygen for 18 people to breathe for a year.

300 Acres of trees =
Produces enough oxygen for 5400 people to breathe for a year.

Gurugram is developing one of the largest green spaces in the panchayat land located in Aravalli hills of **Kasan village.** The requisition of plots for the development of Biodiversity Parks were done under **Jal Shakti Abbhyan** as suggested by hon'ble CM of Haryana.

Kasan village is located in Manesar Tehsil of Gurugram district in Haryana, India. It is situated 2 km away from the sub-district headquarter Manesar which is approximately 16 km away from the district headquarter Gurugram.

(AS SEEN IN 2010)

(CURRENT 2020)

As per commitment made by India under **Bonn Challenge**, an area of 13 million hectares of degraded land will be restored by 2020 and another 13 million hectares by 2030.

The Bonn Challenge is a global effort to bring 150 million hectares of deforested and degraded land into restoration by 2020 and 350 million hectares by 2030.

OBJECTIVES

- Conserve the flora and fauna of the area
- To develop as a good oxygen supplement for the NCR
- To develop recreation space for the local community
- Serve as a hub for education, cultural & conservation activities
- Enhance the air, water and soil quality; prevent soil erosion of the area and/or enhance the quality of the urban environment
- Act as a carbon sequestration source for Gurugram District and prevent adverse environmental conditions (adaptability to climate change)

Approximately **1.5 lakh** native plants will be planted in Kasan BiodiversityPark

The Geographical Area of Gurugram District is **1258 sq.km.** out of which **116.18 sq.km.** is the green cover area i.e. only **9.24%** of its geographical area. After the development of this park, approximately **1.21 sq.km** degraded land can be restored.

CLASS	AREA (SQ. KM)	%AGE OF GA
Very dense forest	0.00	0.00
Moderately dense forest	33.69	2.68
Open forest	82.49	6.56
Total	116.18	9.24

Table : Total green cover of Gurugram District

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For more details, please contact : admin@gurujal.org 0124-2331003

URBAN CITY FOREST

Location: 28°21'22.1"N 76°59'36.6"E

Area: ~ 2,000 Acres (809.3713 ha)

Population: Sikhopur~ 6300+, Sakatpur~1700+, Gairatpur Bas ~ 2100+, Naurangpur~ 3600+

Households: Sikhopur~ 1200+, Sakatpur~300+, Gairatpur Bas ~ 350+, Naurangpur~ 850+

Action Plan for Biodiversity Park And Urban City Forest

- Resolution collection
- Approval from authority
- DPR
- Demarcation (Patwari/Tehsildar)
- Closer of area (Forest Department)
- Nursery Setup
- Chain link fencing/wall construction
- Preparatory / Earth work
- Mass Plantation


"Watching something
grow is good for morale.
It helps us believe in life."
– Myron S. Kaufman


thank
you

gLOCAL
EVALUATION WEEK
Sharing local and global M&E knowledge

GuruJal
COLLABORATIVE . COMMITTED . CONSCIOUS

Hero we care

QUESTIONS AND ANSWERS

CONVENED BY:
clear
Centers for Learning on Evaluation and Results

gLOCAL
EVALUATION WEEK
Sharing local and global M&E knowledge

GuruJal
COLLABORATIVE . COMMITTED . CONSCIOUS

Hero we care

CONCLUSION

CONVENED BY:
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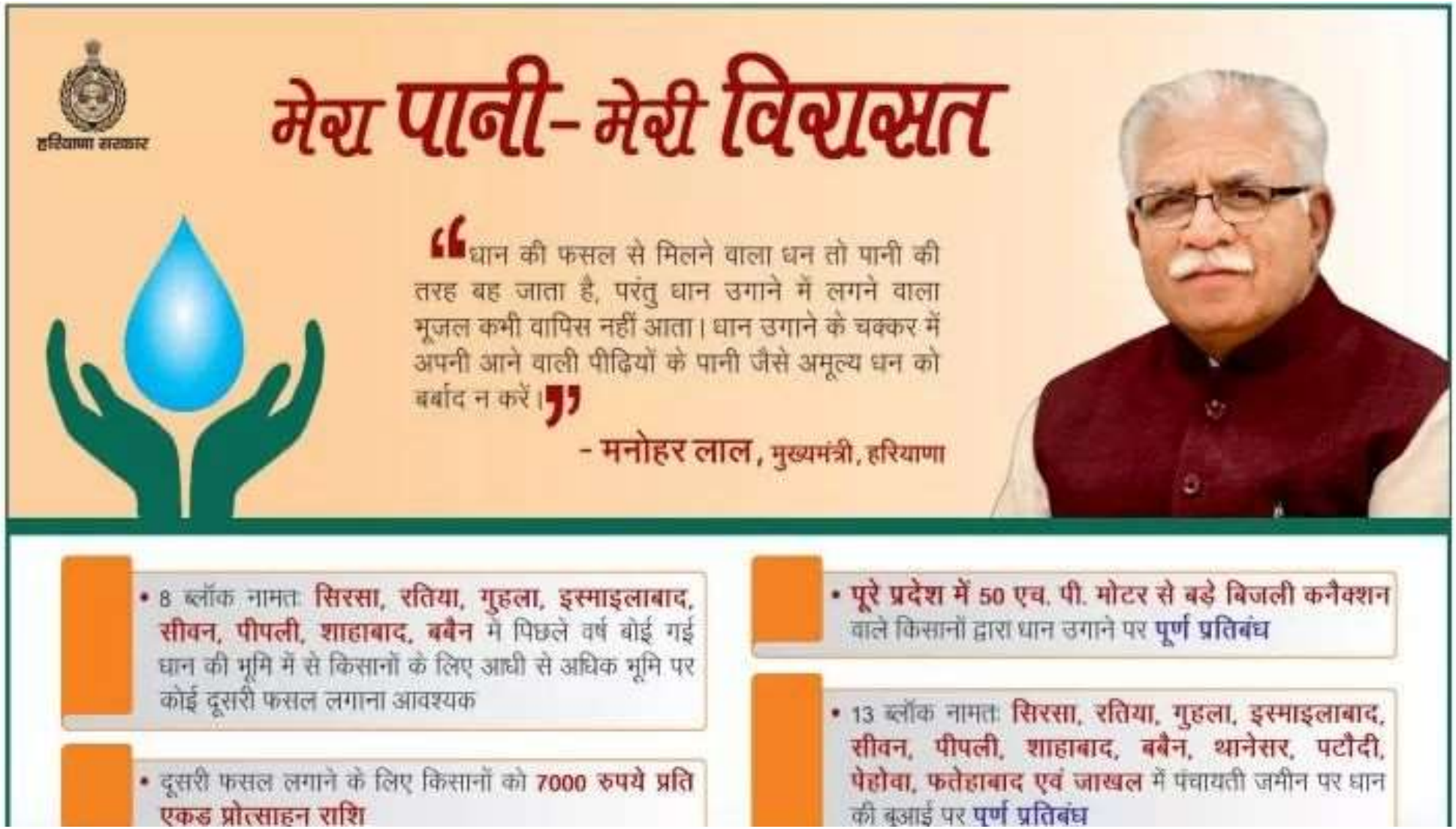
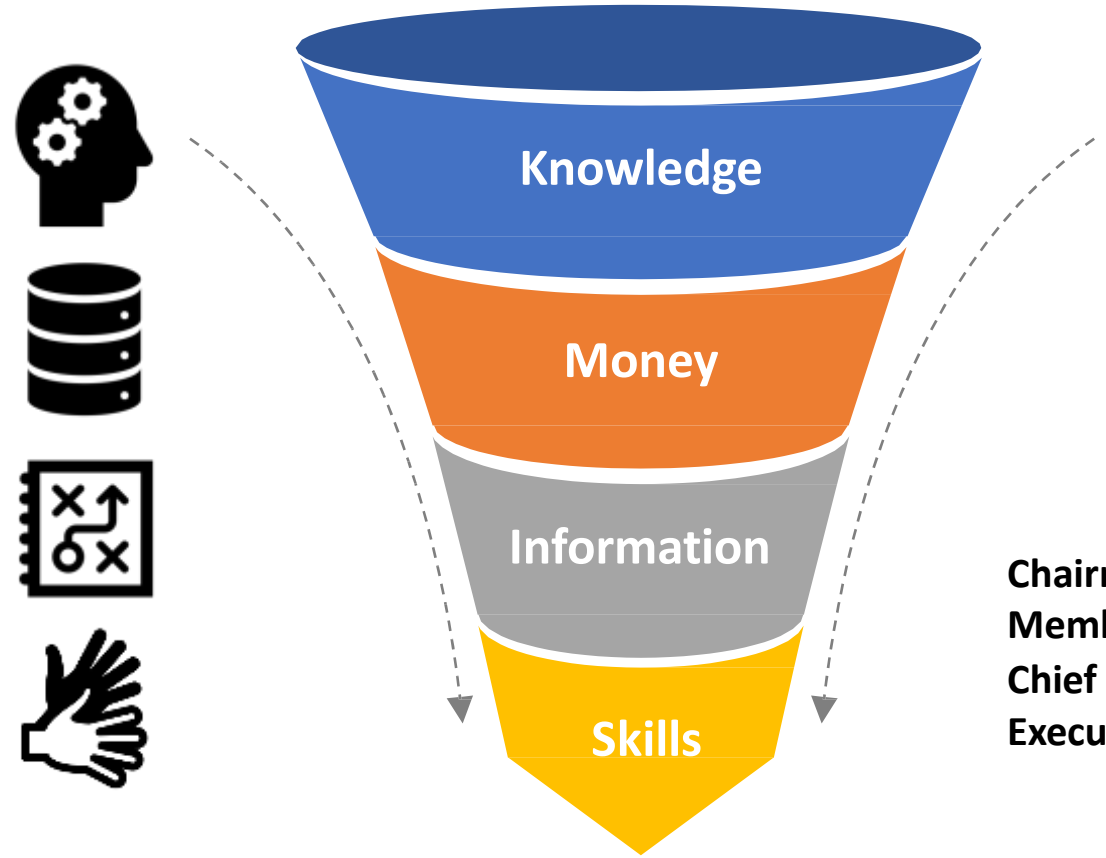
National Mandates

State Mandates



Need of Project Management Unit

Dedicated and collaborative efforts needs to be put in for successful outcomes. Without funneling all the available resources in a time bound and efficient manner, the project is not possible.



Project Management Unit (PMU)

Chairman – Deputy Commissioner
Member Secretary – Program Manager, Executing Committee
Chief Members (POCs - Revenue, GMDA, D&P, MCG, HARSAC)
Executing Committee (Assistant Manager, Associate)

Roles and responsibilitties of PMU

OUR PROJECTS :

Completed so far ..

318

Public Outreach Events

155

Focussed Workshops

27

Ponds

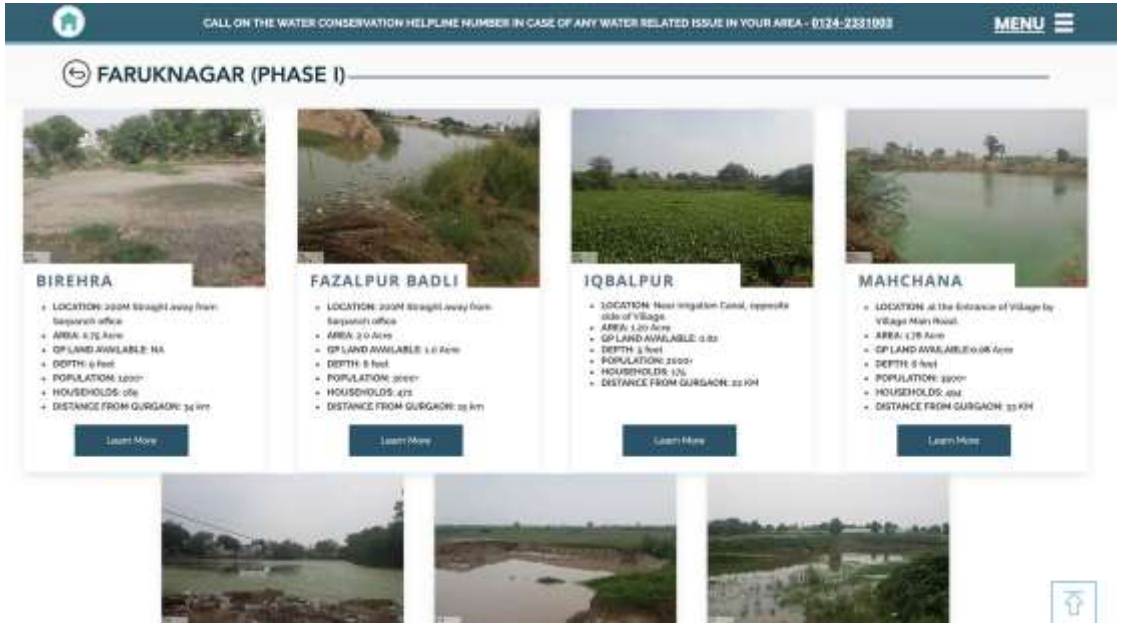
27

Fixing Leaks & Wastage Govt. Buildings

11

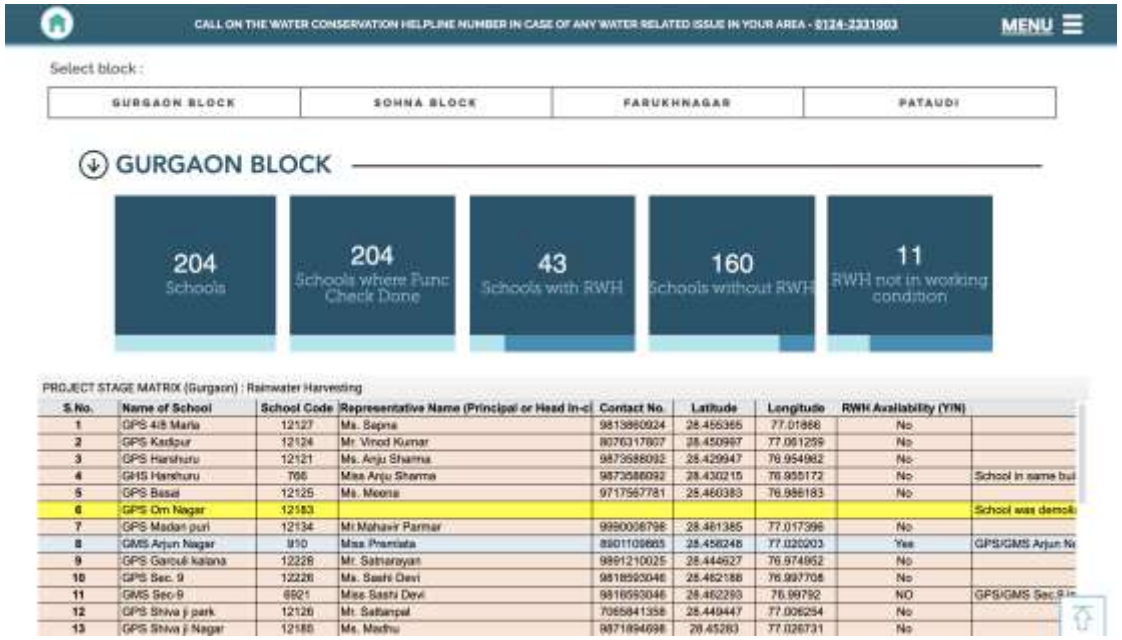
Community Mobilization

Live Monitoring helps in Impact Measurement & Maintaining Transparency

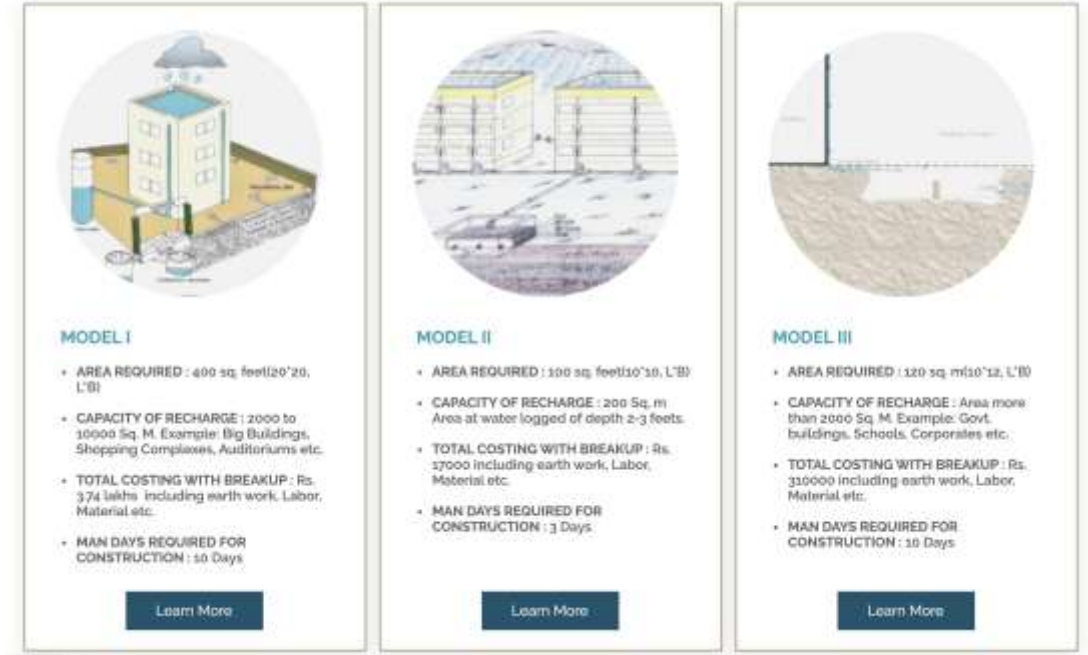


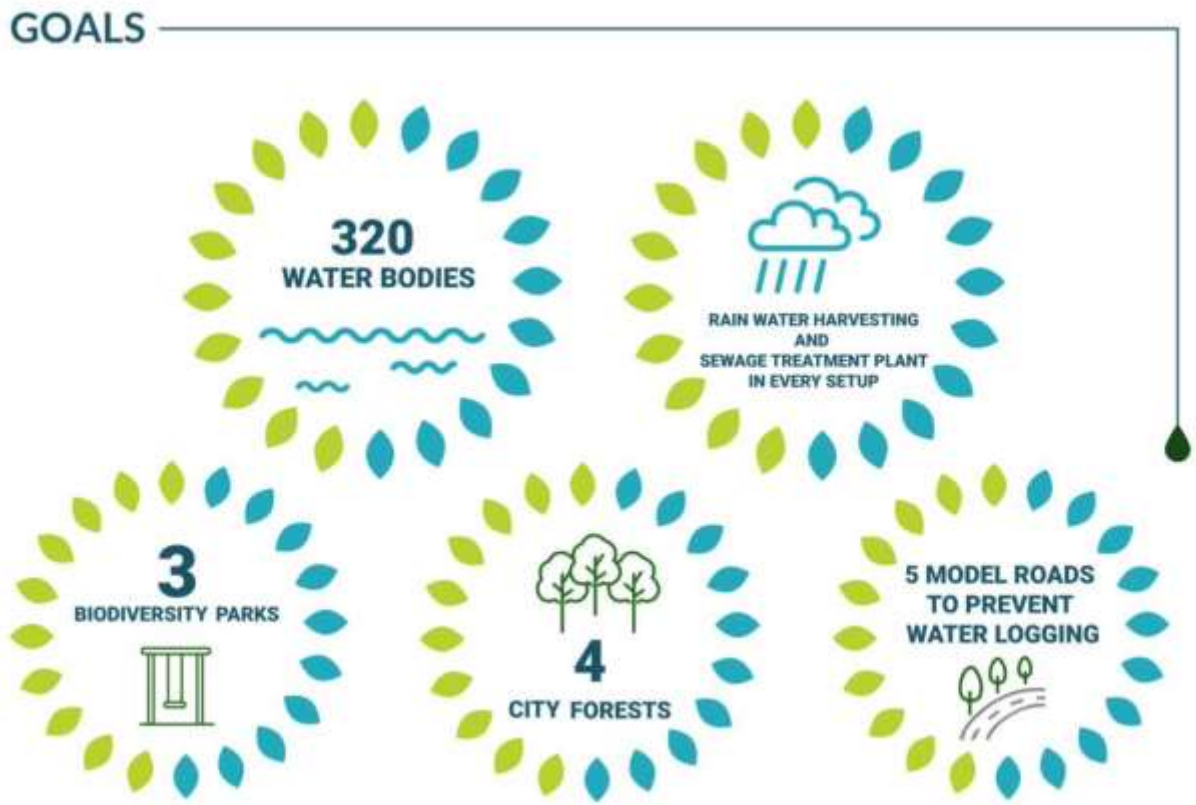
SL No.	Ponds/Villages	Pre Study	Financial Approvals	Admin Approvals	Civil Work	STP	Landscaping	O&M
1	Medawas	Done	Done	In progress	In progress	Not Started	Not Started	Not Started
2	Daulatabad	Done	In progress	In progress	Not Started	Not Started	Not Started	Not Started
3	Dharampur	Done	In progress	In progress	Not Started	Not Started	Not Started	Not Started
4	Bajgehra	Done	In progress	In progress	Not Started	Not Started	Not Started	Not Started
5	Kasan	Done	Done	In progress	In progress	In progress	Not Started	Not Started
6	Bilaspur	Done	Done	In progress	In progress	In progress	Not Started	Not Started
7	Khalawas	Done	Done	In progress	In progress	In progress	Not Started	Not Started
8	Badhera	Done	Done	In progress	In progress	Not Started	Not Started	Not Started
9	Fazalpur Badli	Done	Done	In progress	In progress	Not Started	Not Started	Not Started
10	Pati Hajipur	Done	In progress	In progress	Not Started	Not Started	Not Started	Not Started
11	Mahchana	Done	In progress	In progress	Not Started	Not Started	Not Started	Not Started
12	Birehra	Done	In progress	In progress	Not Started	Not Started	Not Started	Not Started
13	Iqbalpur	Done	In progress	In progress	In progress	Not Started	Not Started	Not Started
14	Tajnagar	Done	Done	In progress	In progress	In progress	Not Started	Not Started
15	Khandewdi	Done	Not Started	In progress	Not Started	Not Started	Not Started	Not Started
16	Wazirpur	Done	In progress	In progress	Not Started	Not Started	Not Started	Not Started
17	Khurki Majra Dhankot	Done	In progress	In progress	Not Started	Not Started	Not Started	Not Started
18	Dhankot	Done	Not Started	In progress	Not Started	Not Started	Not Started	Not Started
19	Dhanwapur	Done	In progress	In progress	Not Started	Not Started	Not Started	Not Started
20	Naharpur Kasan	Done	Not Started	In progress	Not Started	Not Started	Not Started	Not Started
21	Rampur	Done	Not Started	In progress	Not Started	Not Started	Not Started	Not Started
22	Behara Kalan	Done	Done	In progress	In progress	In progress	Not Started	Not Started
23	Palasoli	Done	Done	In progress	Not Started	Not Started	Not Started	Not Started
24	Moujabad	Done	Done	In progress	In progress	In progress	Not Started	Not Started
25	Harlahera	Done	Done	In progress	In progress	In progress	Not Started	Not Started
26	Hazipur	Done	Not Started	In progress	Not Started	Not Started	Not Started	Not Started
27	Bhawalsi	Done	Not Started	In progress	Not Started	Not Started	Not Started	Not Started
28	Silani	Done	Not Started	In progress	Not Started	Not Started	Not Started	Not Started
29	Harchandpur	Done	Done	In progress	In progress	Not Started	Not Started	Not Started
30	Newada	Not Started	Done	In progress	In progress	In progress	Not Started	Not Started
31	Daula	Not Started	Not Started	Not Started	Not Started	Not Started	Not Started	Not Started

Ensuring Evidence Based Decision Making and Strengthening Service Delivery

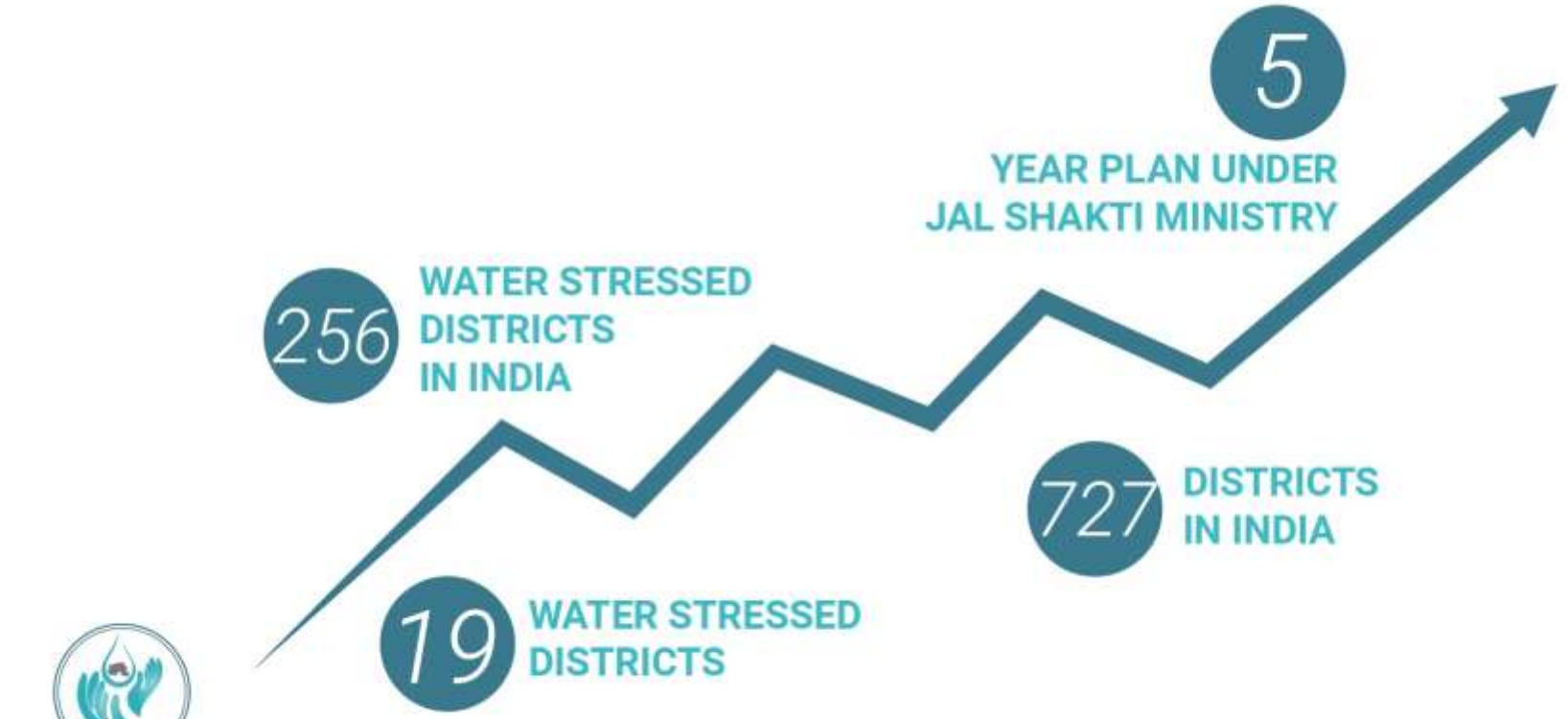


S.No.	Name of School	School Code	Representative Name (Principal or Head In-c	Contact No.	Latitude	Longitude	RWH Availability (Y/N)	
1	GPS 4/8 Maria	12127	Ms. Sapna	9813880924	28.455365	77.01888	No	
2	GPS Kadipur	12124	Mr. Vinod Kumar	8076317807	28.450997	77.061259	No	
3	GPS Harshuru	12121	Ms. Anju Sharma	9873588092	28.429947	76.954982	No	
4	GHS Harshuru	766	Miss Anju Sharma	9873588092	28.430215	76.955172	No	School in same bui
5	GPS Basai	12125	Ms. Meena	9717567781	28.460383	76.986183	No	
6	GPS Om Nagar	12183						School was demoli
7	GPS Madan puri	12134	Mr.Mahavir Parmar	9990036798	28.461385	77.017396	No	
8	GMS Arjun Nagar	910	Miss Premlata	8901109865	28.458248	77.020203	Yes	GPS/GMS Arjun Na
9	GPS Garouli kalana	12228	Mr. Satnarayan	9891210025	28.444927	76.974952	No	
10	GPS Sec. 9	12226	Ms. Sashi Devi	9818593046	28.462188	76.997708	No	
11	GMS Sec-9	8921	Miss Sashi Devi	9818593046	28.462293	76.99792	NO	GPS/GMS Sec.9 in
12	GPS Shiva ji park	12126	Mr. Sattanpal	7065841358	28.449447	77.006254	No	
13	GPS Shiva ji Nagar	12180	Ms. Madhu	9871894698	28.45283	77.026731	No	




GOALS
320
WATER BODIES
RAIN WATER HARVESTING
AND
SEWAGE TREATMENT PLANT
IN EVERY SETUP
3
BIODIVERSITY PARKS
4
CITY FORESTS
5 MODEL ROADS
TO PREVENT
WATER LOGGING

Scalability



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Thank - You

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