

# Water Conservation and Rainwater Harvesting



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# Jal Shakti Abhiyan



Water conservation and rainwater harvesting



Renovation of traditional and other water bodies/tanks



Reuse water and recharge structures



Watershed development

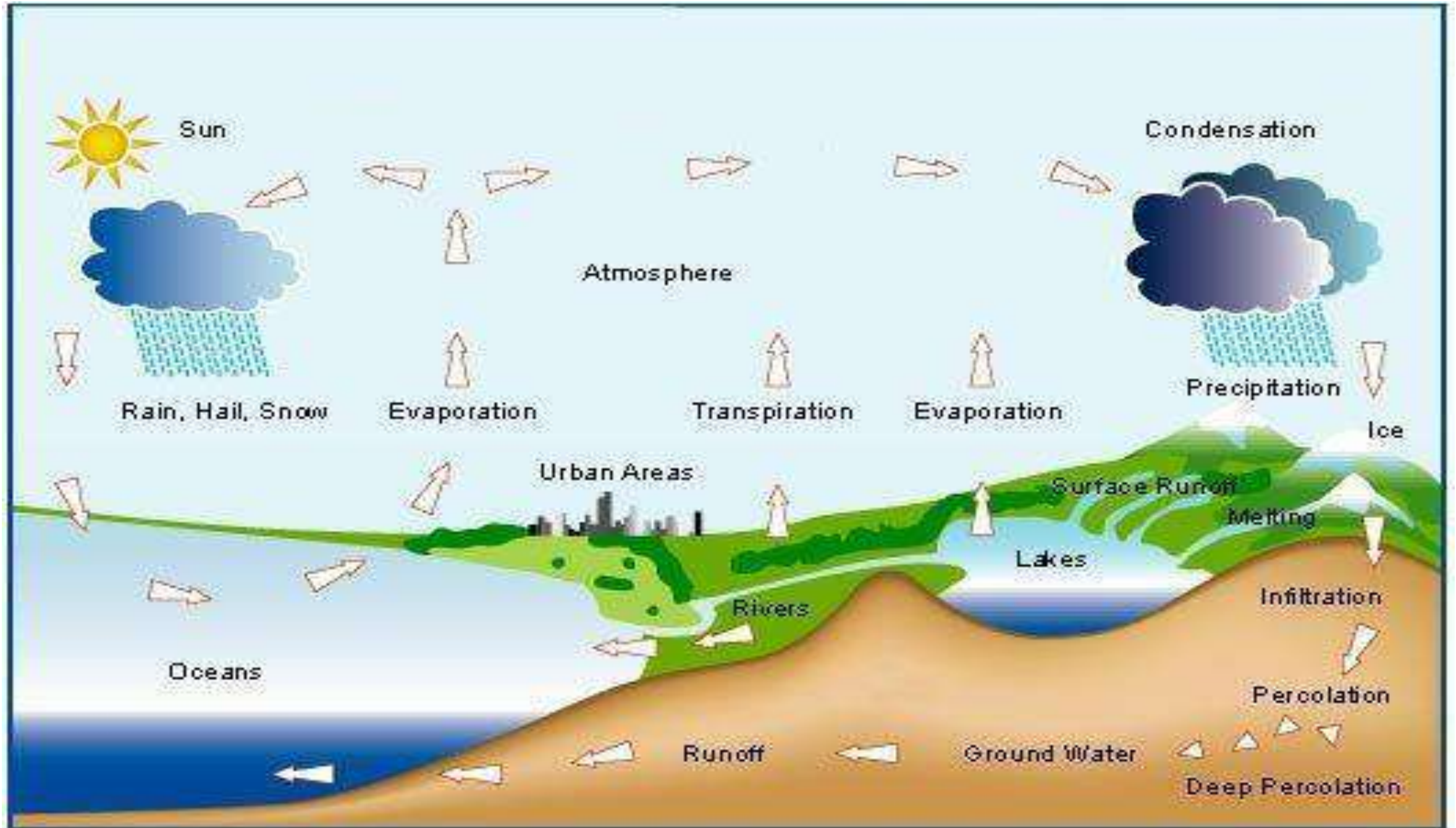


Intensive afforestation

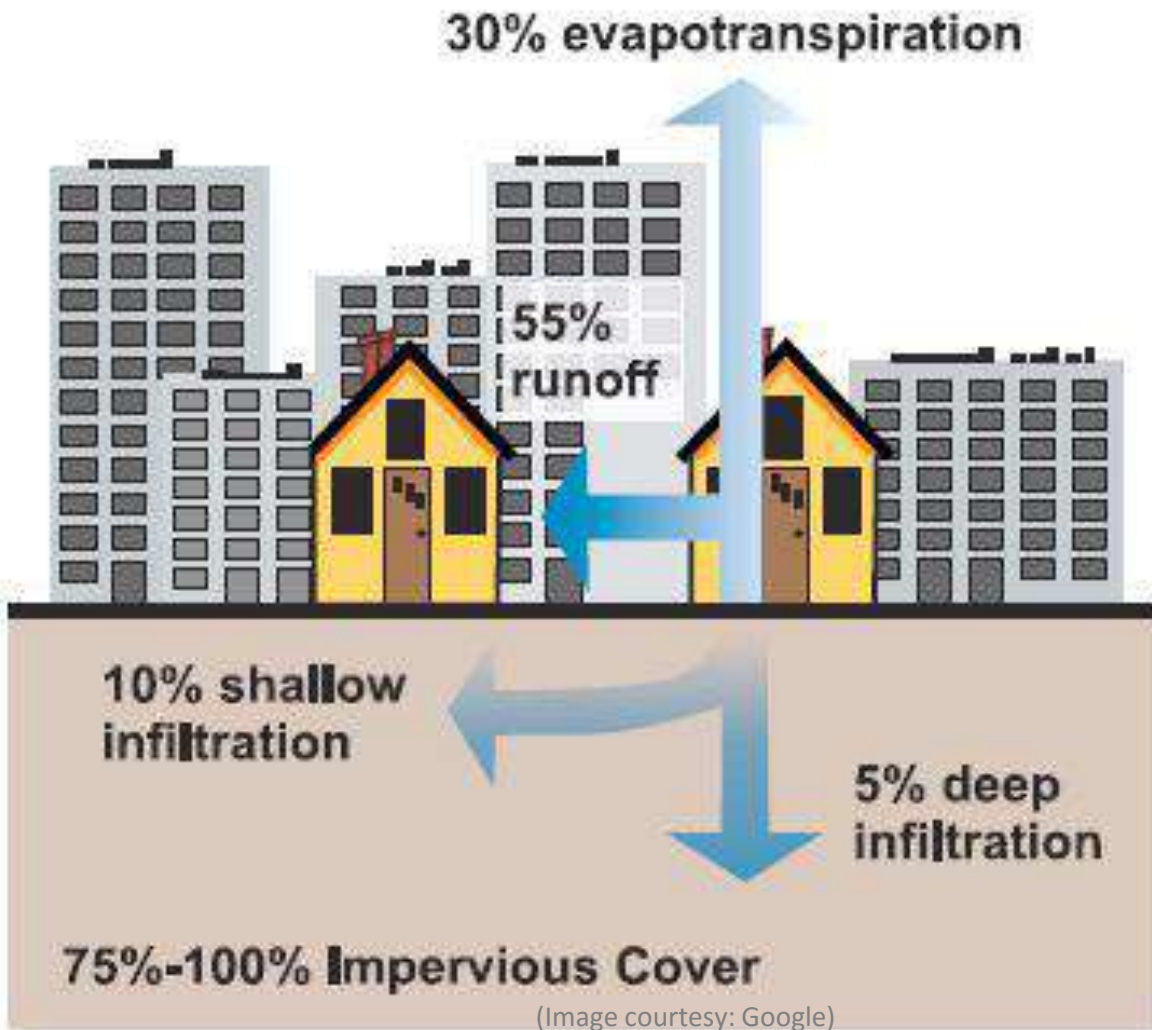
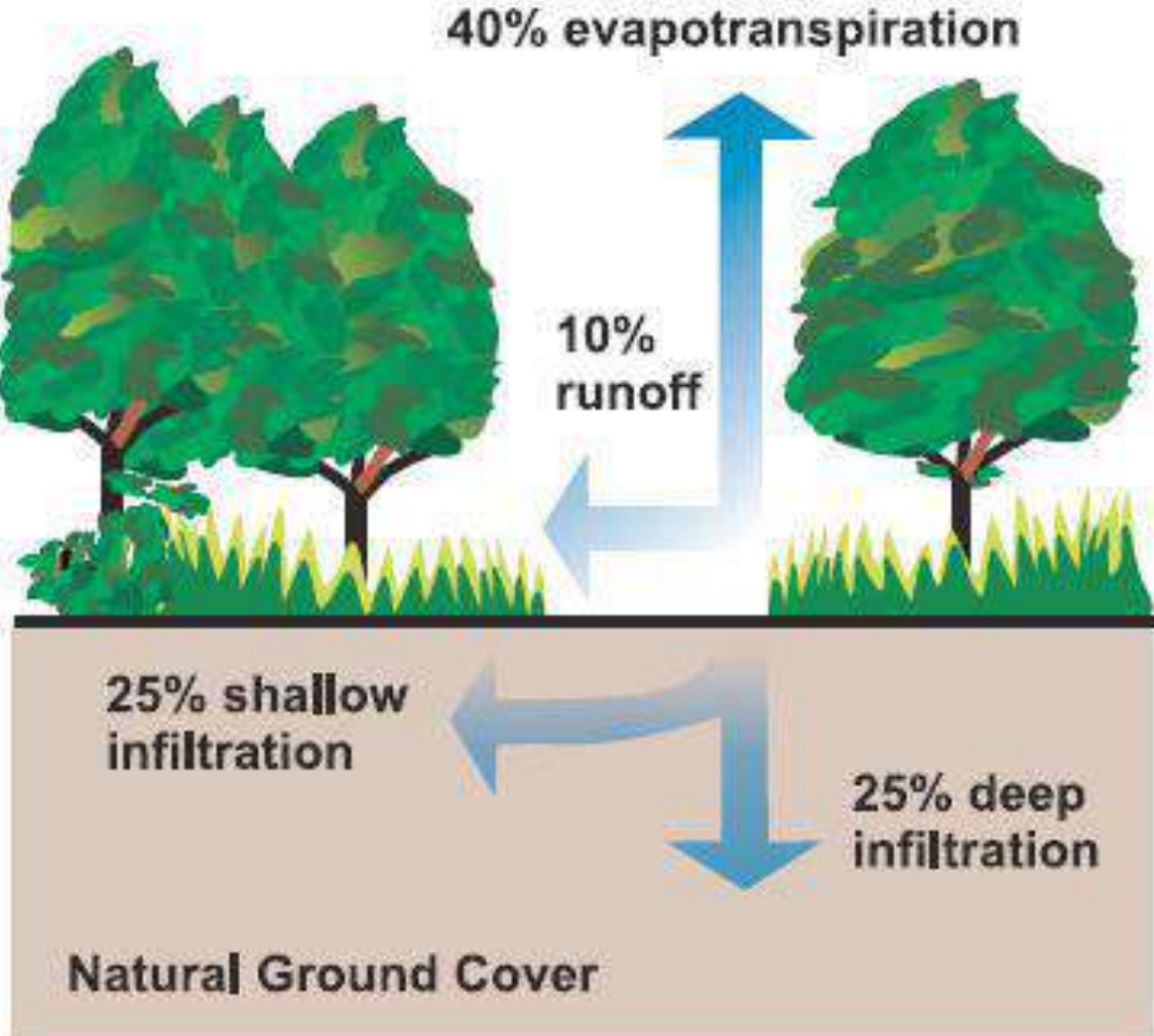
**Focused on integrated demand and supply-side management of water at the local level, including creation of local infrastructure for source sustainability**

*Catch the rain, where it falls, when it falls*

# The Water (Hydrologic) Cycle



# Green and Blue Spaces (Recreate/Rejuvenate)





**The Problem:**  
Why water  
conservation?



Forbes

# EVERY DROP COUNTS

Annual water availability per person in India (cubic metres)

1,820                      1,545                      1,341                      1,140



2001

2011

2025\*

2050\*

© news18creative

\*Estimates; source: Lok Sabha reply

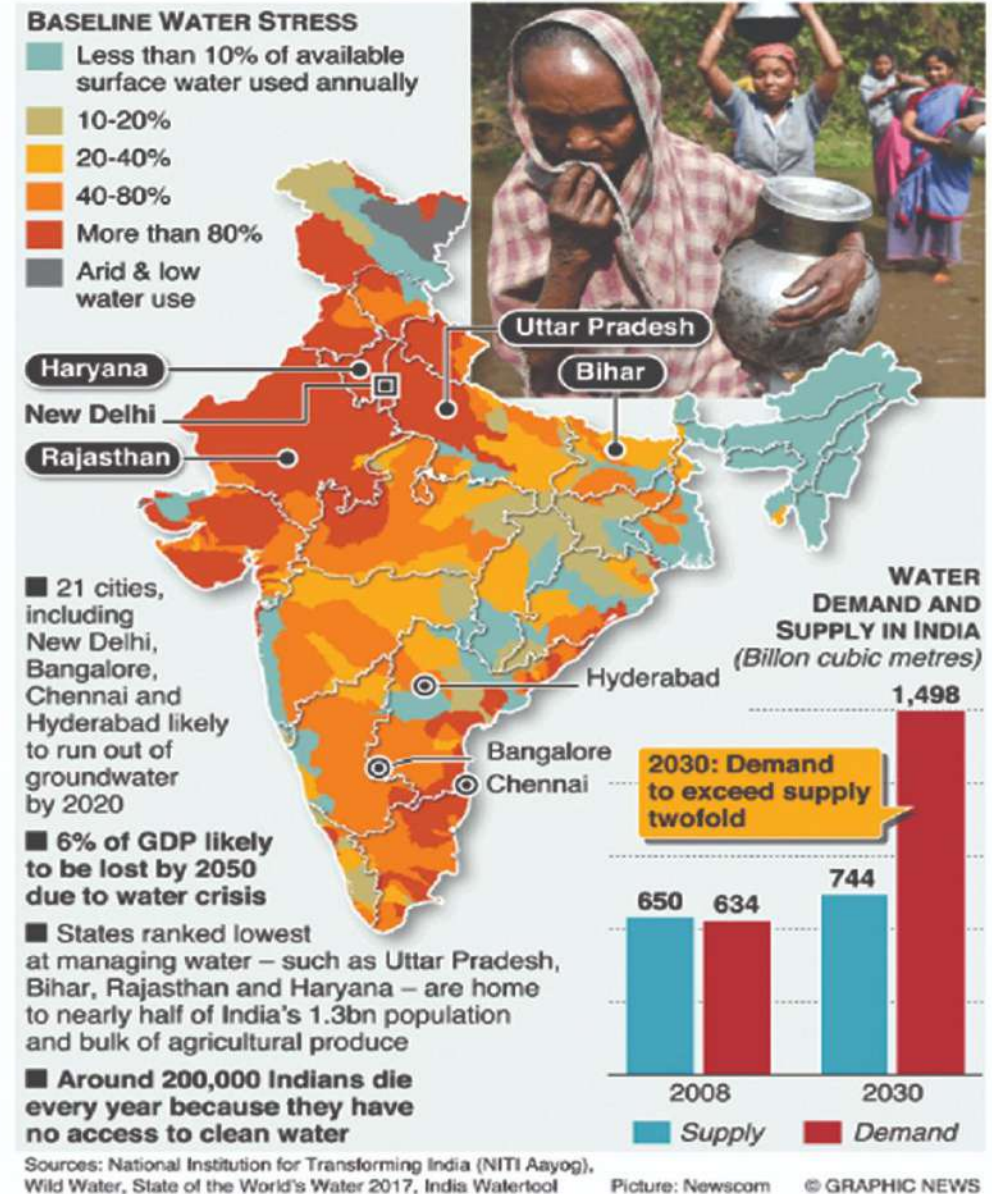
# Water Stress

Area of the country as % of world area	2.4%
Population as % of world population (Census, 2011)	17.1%
Water as % of world water	4%
Average annual rainfall (India Meteorological Dept.)	1160 mm ( world average 1110 mm)
Range of distribution	150-11690 mm
Range Rainy days	5-150 days

Source: Water Resources Information System of India

## India on brink of worst-ever water crisis

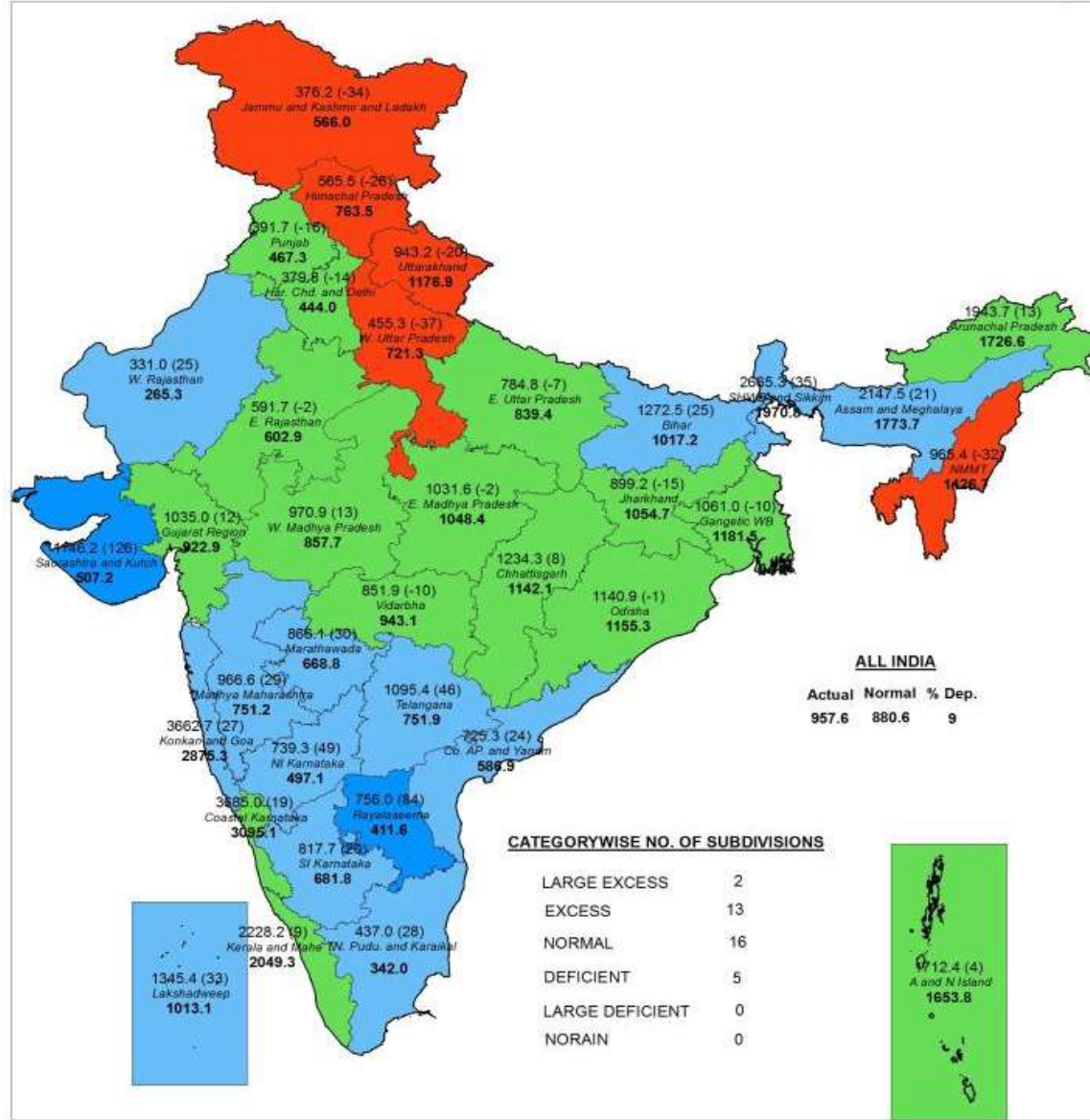
India is suffering from the worst water crisis in its history with some 600 million people facing acute water shortage. The crisis will worsen as demand is projected to be twice the available supply by 2030





**SUBDIVISION RAINFALL MAP**

Period : 01-06-2020 To 30-09-2020



**Legend**

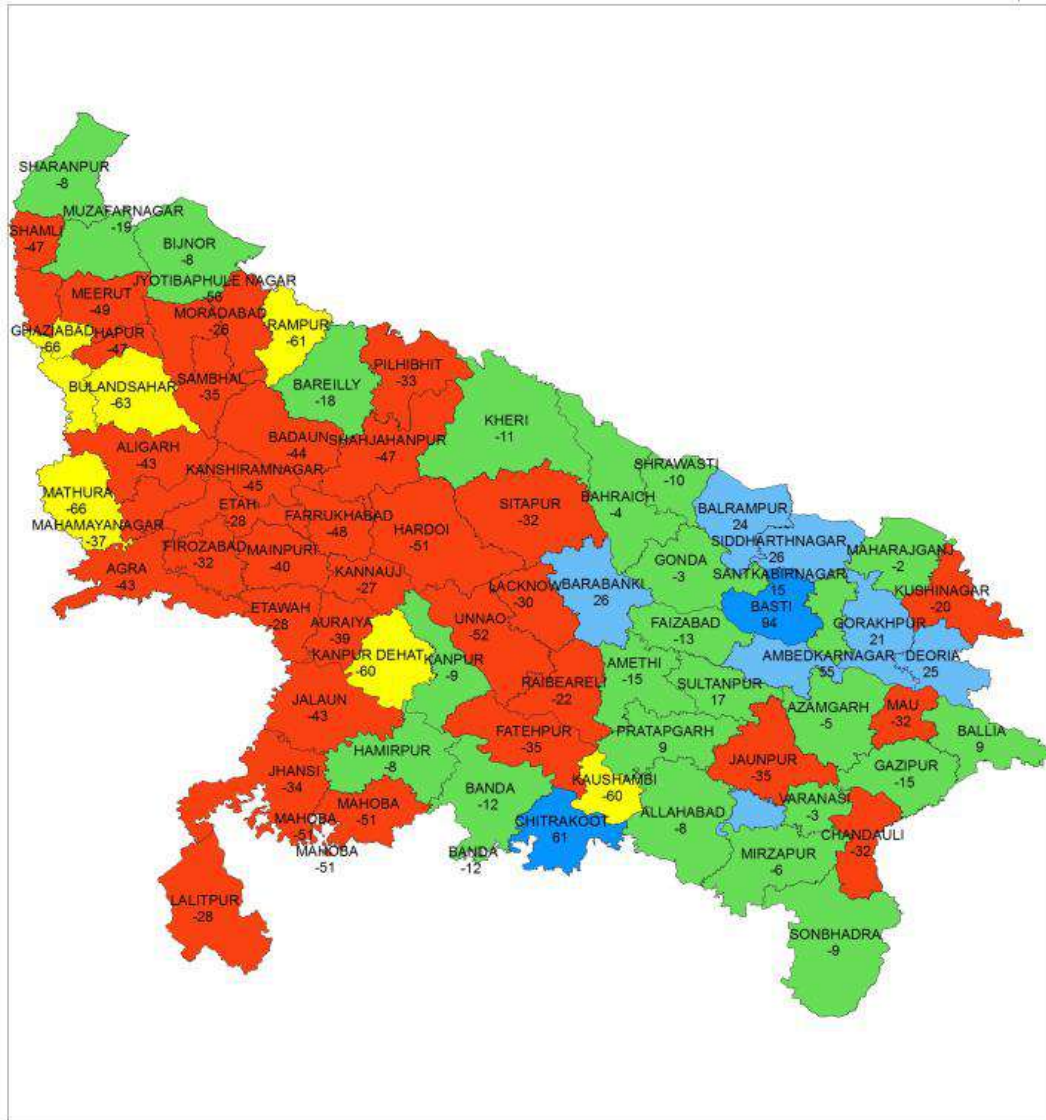
Large Excess [ 60% or more] Excess [ 20% to 59%] Normal [-19% to 19%] Deficient [-59% to -20%] Large Deficient [-99% to -60%] No Rain [-100%] No Data





**DISTRICT RAINFALL DEPARTURE MAP - UTTAR PRADESH**

Period :01-06-2020 To 30-09-2020



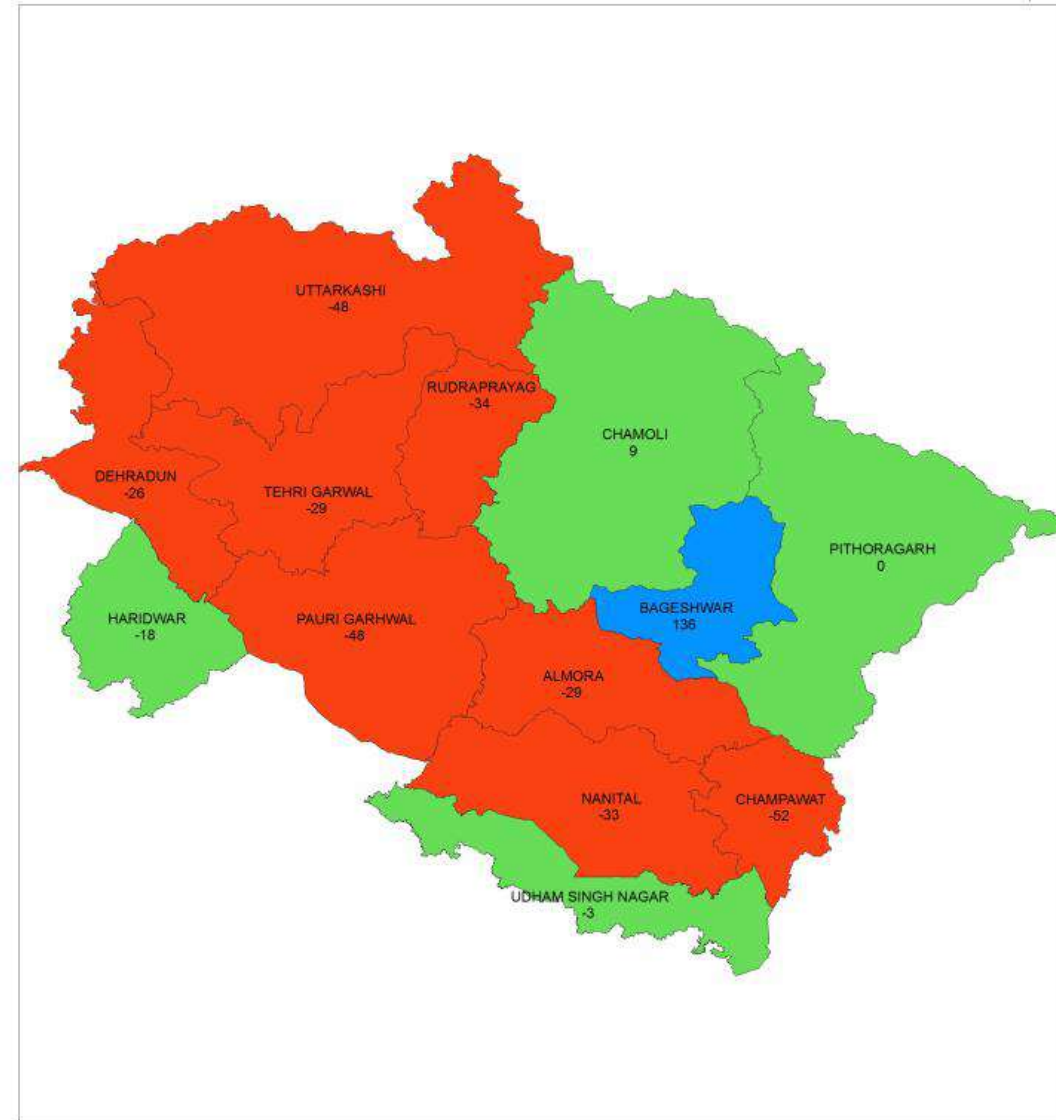
Legend

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**DISTRICT RAINFALL DEPARTURE MAP - UTTARAKHAND**

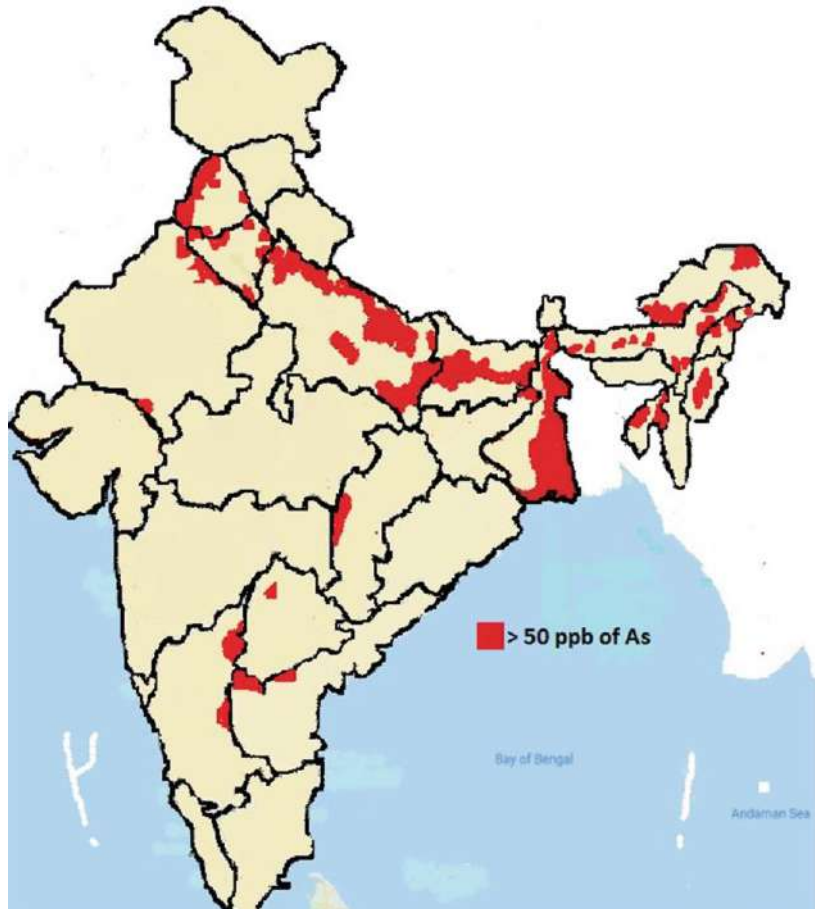
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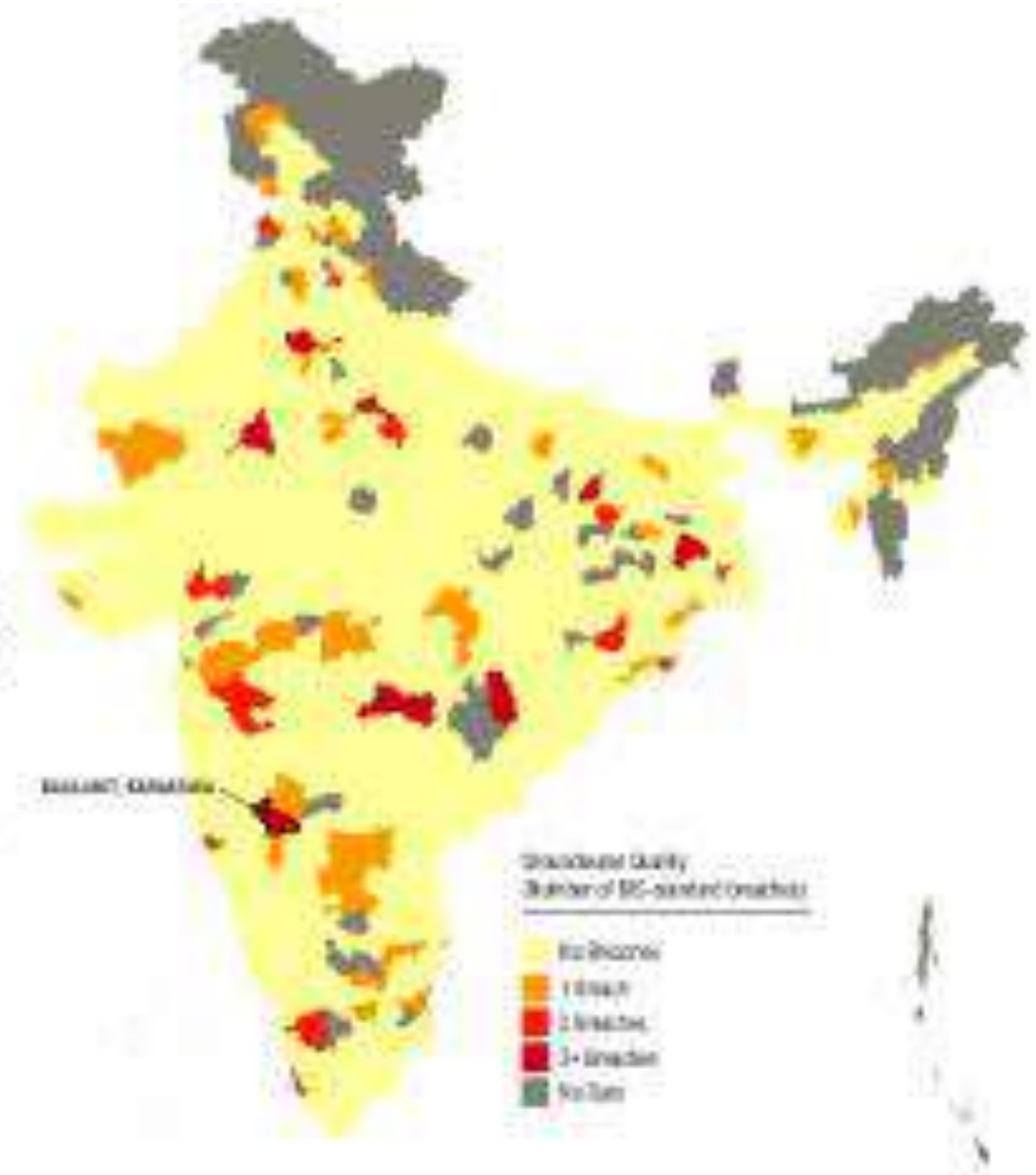
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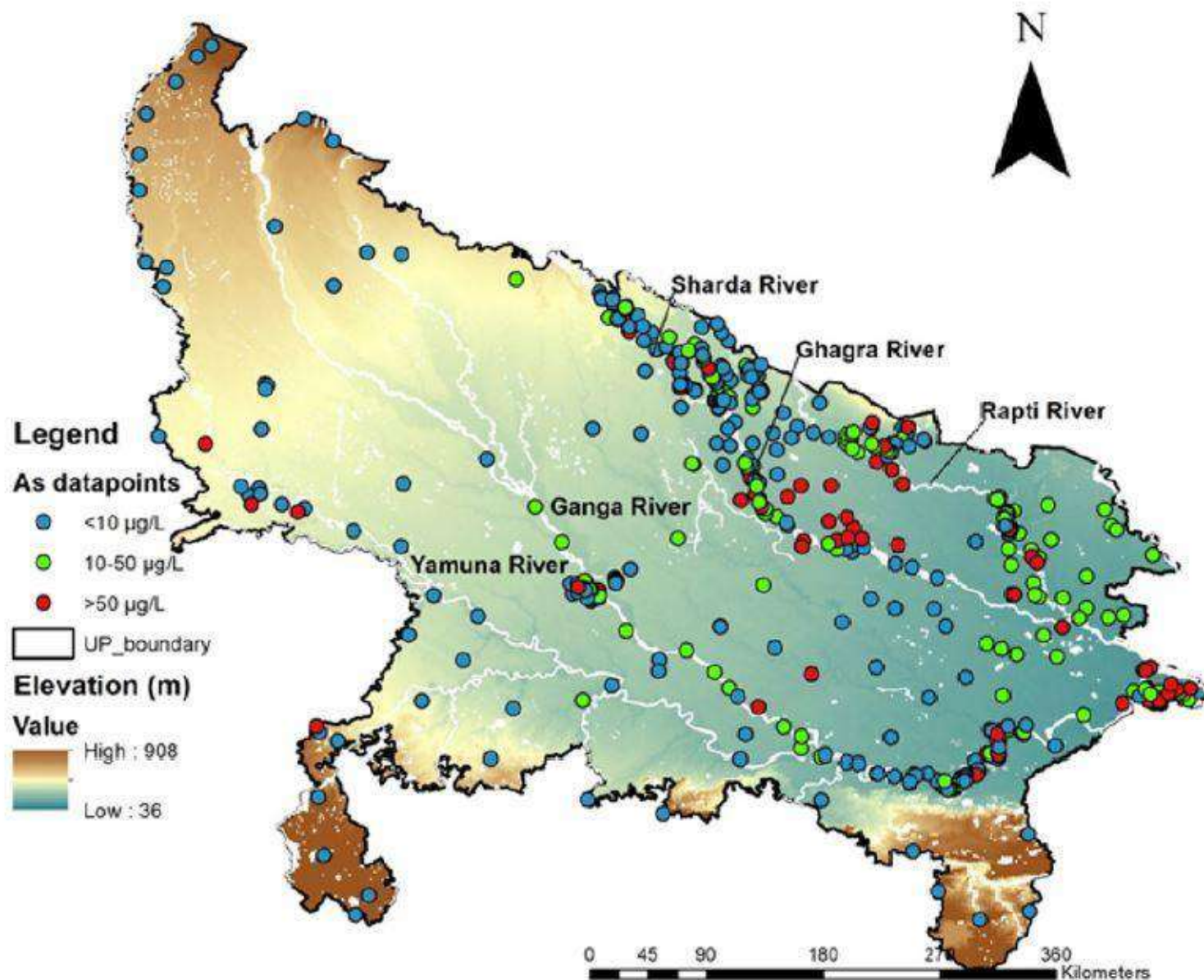
# The Status of Arsenic Contamination in India



More than  
**100**  
**MILLION**  
People Live  
in Areas of  
Poor Water  
Quality



# High Levels of Arsenic Found in Groundwater in Uttar Pradesh



A total of 40 districts in the state are exposed to high concentration of arsenic in groundwater. The worst affected are Balia, Barabankhi, Gorakhpur, Ghazipur, Gonda, Faizabad and Lakhimpur Kheri. Most of the affected districts are situated on the floodplains of the Ganga, Rapti and Ghaghara rivers. Ten other districts with moderate risk of arsenic contamination are Shahjahanpur, Unnao, Chandauli, Varanasi, Pratapgarh, Kushinagar, Mau, Balrampur, Deoria and Siddharthnagar.

# ACCESS TO PIPED WATER

% of rural households with piped water supply

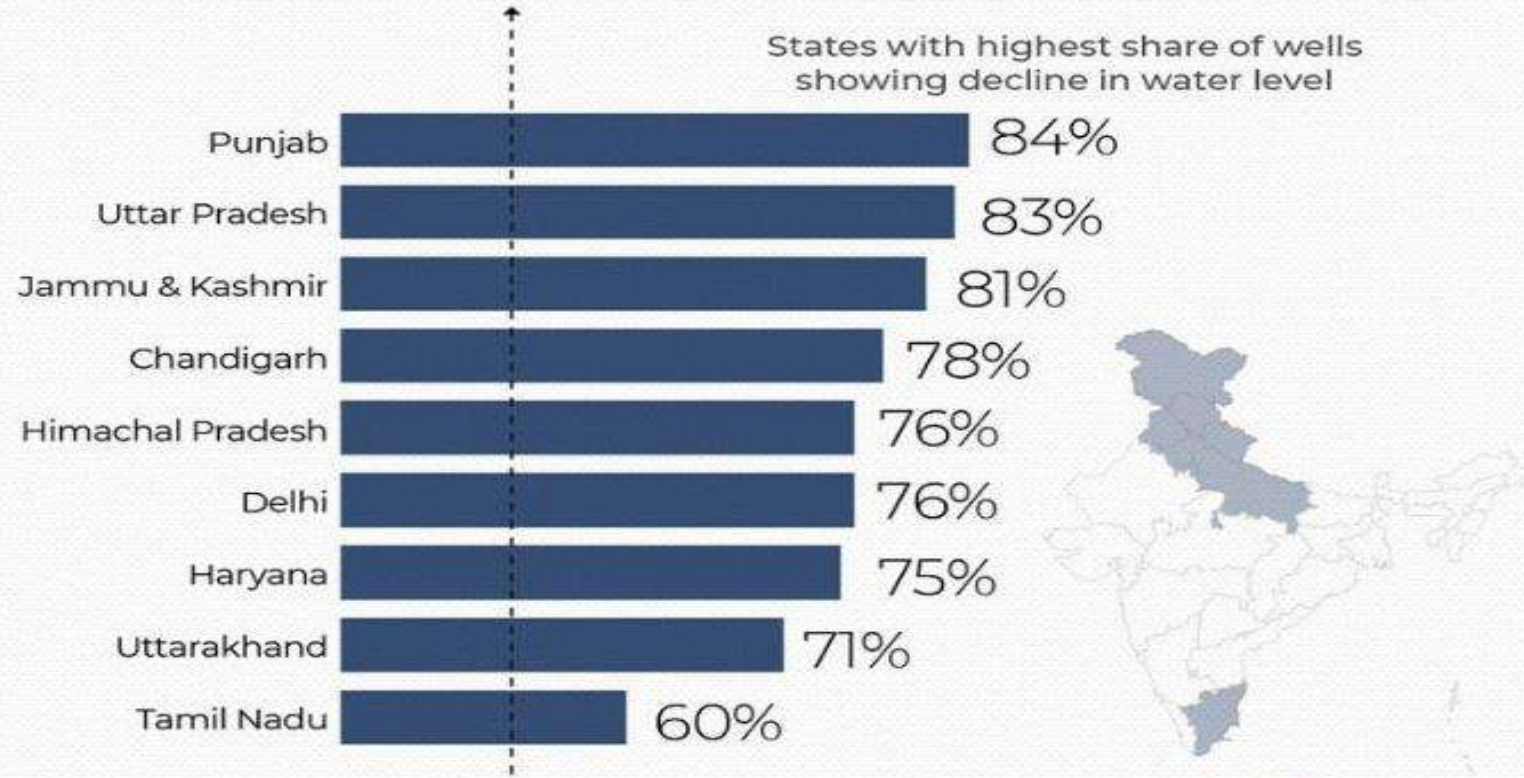


SIKKIM	99.34
GUJARAT	78.46
HIMACHAL PRADESH	56.27
HARYANA	53.47
PUNJAB	53.28
PUDUCHERRY	50.35
KARNATAKA	43.81
MAHARASHTRA	38.44
TELANGANA	33.53
ANDHRA PRADESH	33.52
JAMMU & KASHMIR	30.02
TAMIL NADU	29.74
KERALA	16.75
MIZORAM	15.74
UTTARAKHAND	14.32
RAJASTHAN	12.38
MADHYA PRADESH	12.2
ANDAMAN & NICOBAR	10.15
ARUNACHAL PRADESH	9.09
CHHATTISGARH	8.93
JHARKHAND	5.75
MANIPUR	5.58
NAGALAND	4.89
ODISHA	3.94
TRIPURA	3.18
ASSAM	2.21
BIHAR	1.88
UTTAR PRADESH	1.33
WEST BENGAL	1.31
MEGHALAYA	0.95
GOA	0

As in June 2019

# FALL IN GROUND WATER LEVEL

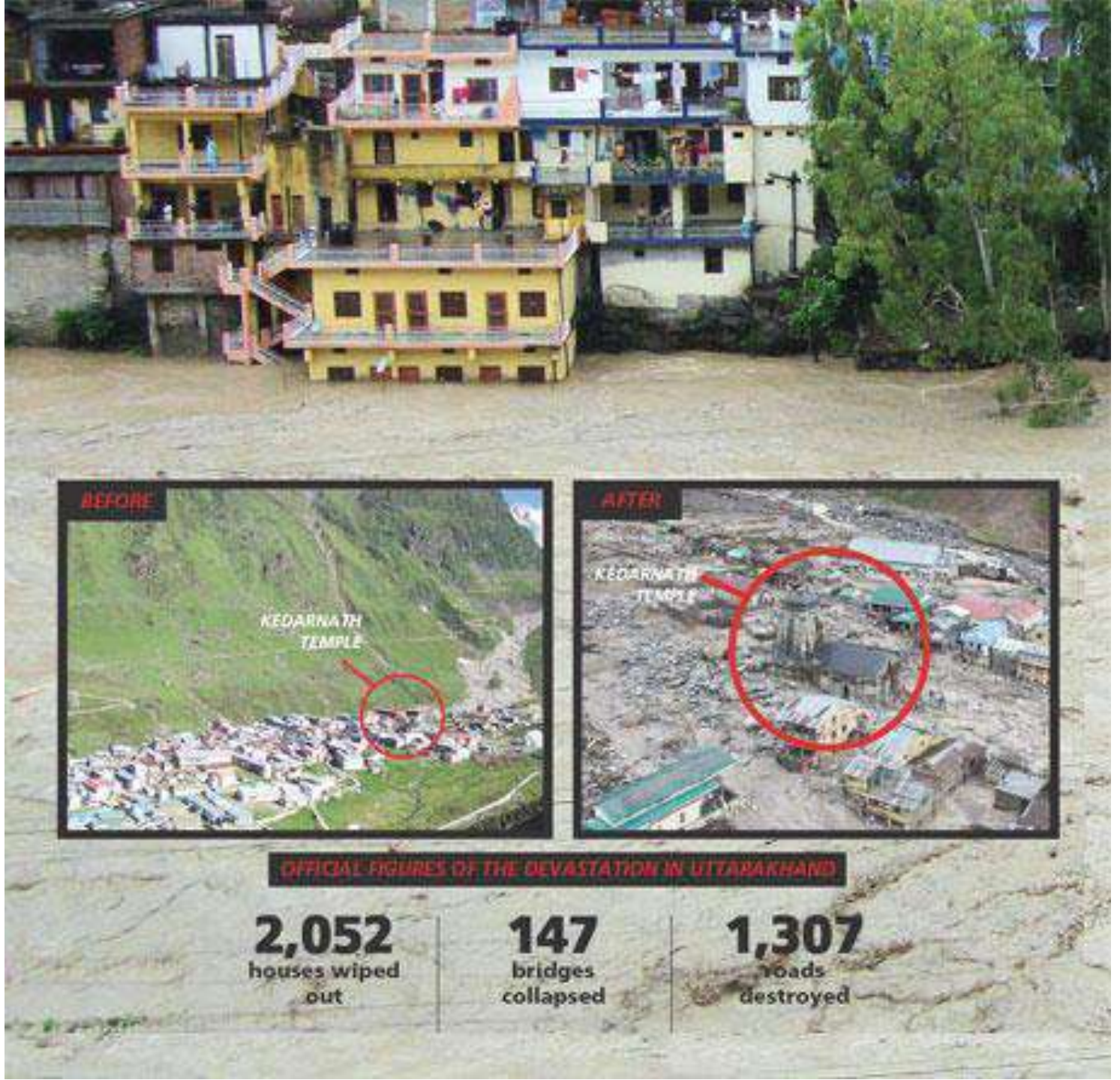
52% of India's wells show a fall in water level



Based on water level data for 2018 vs the decadal average (2008-2017)  
Source: Lok Sabha reply



# 2013 Uttarakhand Floods



# Crisis in the Himalayas: Nearly 50% perennial springs in the region have dried up

About 90 per cent of  
Uttarakhand's rural  
population meets its  
water needs from  
springs (Photo: Arpita  
Chakrabarty)



Source: <https://www.downtoearth.org.in/news/climate-change/parched-hills-55135>

# A health crisis

- Forty-five per cent of India's children are stunted and 600,000 children under the age of five die each year, largely because of inadequate water supply and poor sanitation. (UNICEF, FAO)



# An economic crisis

Loss of productivity to water and sanitation related diseases costs many countries up to 5% of GDP (WHO 2012)





# A women's crisis

Women spend 150 million workdays every year for fetching water (UN Water)



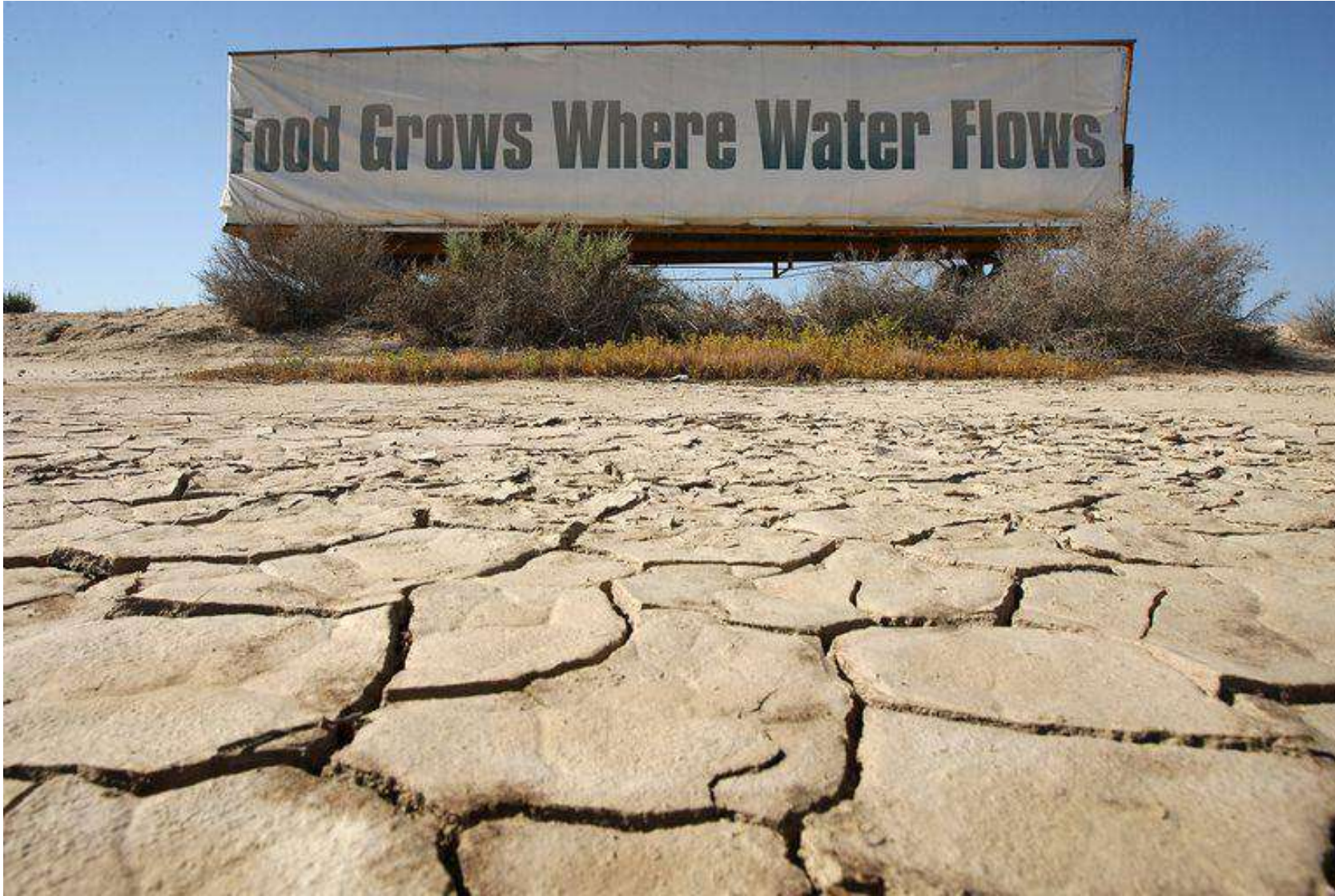
# An education crisis

Children are often responsible for collecting water to help their families.



# A hunger crisis

The Global hunger index 2020 report has placed India at 94<sup>th</sup> position among 107 countries



# What we have? – A rich traditional water management knowledge

A Baoli in Ferozshah Kotla, New Delhi



Jhalara, Rajasthan



Ahar Pynes of South Bihar



Tanka from Rajasthan



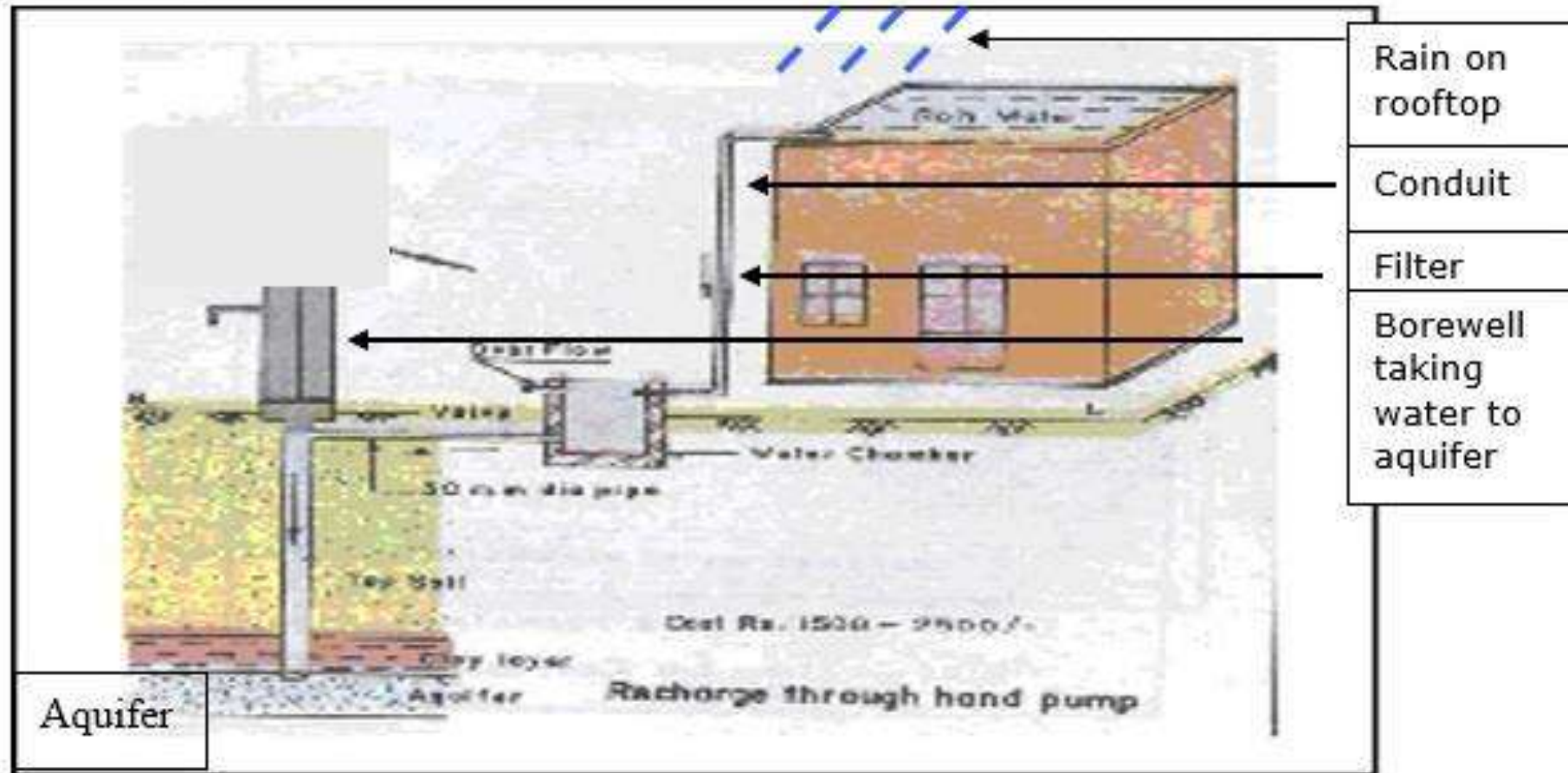
A Johad in Rajasthan



Tank System in Tamilnadu

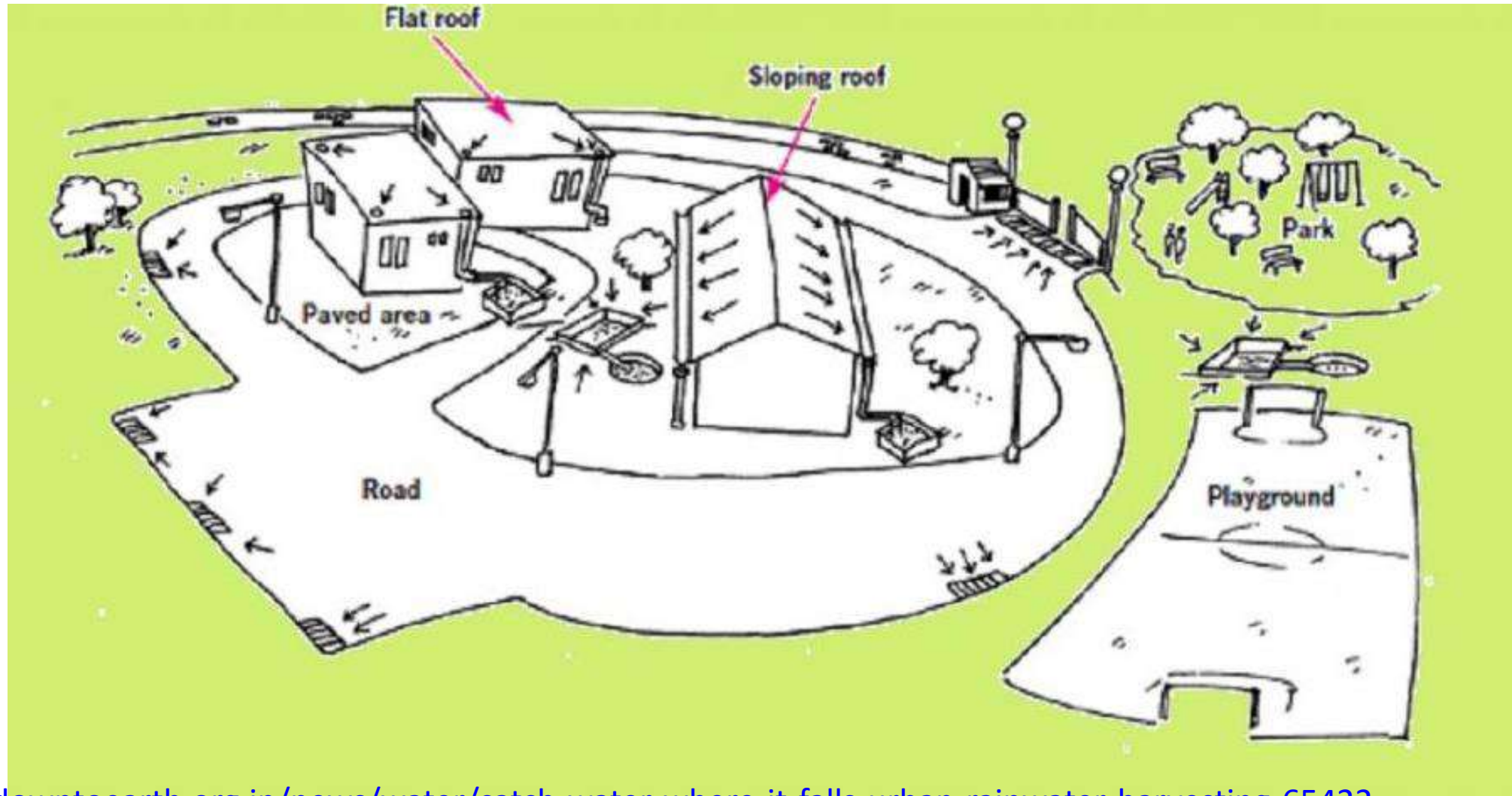


# Rainwater harvesting



# The catchments

- The catchment is a structure or land area that is used to collect rainwater and drain run-off.
- Can be either paved (roofs, courtyards, roads, etc) or unpaved (lawns, playgrounds, open spaces, etc).



**Photographs – Apna Talab Abhiyan, Bundelkhand, UP**



**Crops grown in 30 Acre in Banda through Apna Talab**



**5 decade old dried up well revived in Barbai, Mahoba**



**9m deep pond created in 1 ha by digging up sand for supply for Arjun Sagar Canal Project - sustained water for 25 Acre land and cattle for 3 consecutive drought years**



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**Revival of stream-Chal Khal method, Pauri District, Uttarakhand**



Diversion Bunds



Tie Ridging



Contour Farming



Farm Ponds

[https://nwa.mah.nic.in/sdmc/rwh/02\\_methods.htm](https://nwa.mah.nic.in/sdmc/rwh/02_methods.htm)



Use of Abandoned dugwells

<http://upgovernor.gov.in/en/page/explore-raj-bhavan>



Gabion Check Dam

<https://www.youtube.com/watch?v=sAWibazqEWA>

[https://www.youtube.com/watch?v=BHuFCAndPMU&feature=emb\\_logo](https://www.youtube.com/watch?v=BHuFCAndPMU&feature=emb_logo)



# Action:

## How can NYK Youth fellows contribute?

- **Public awareness and sensitization**

- Posters, banners and other publicity material
- Street plays, songs and Slogans
- Awareness on Traditional Water Wisdom using Folk Performers  
Bahurupiya, Acrobats

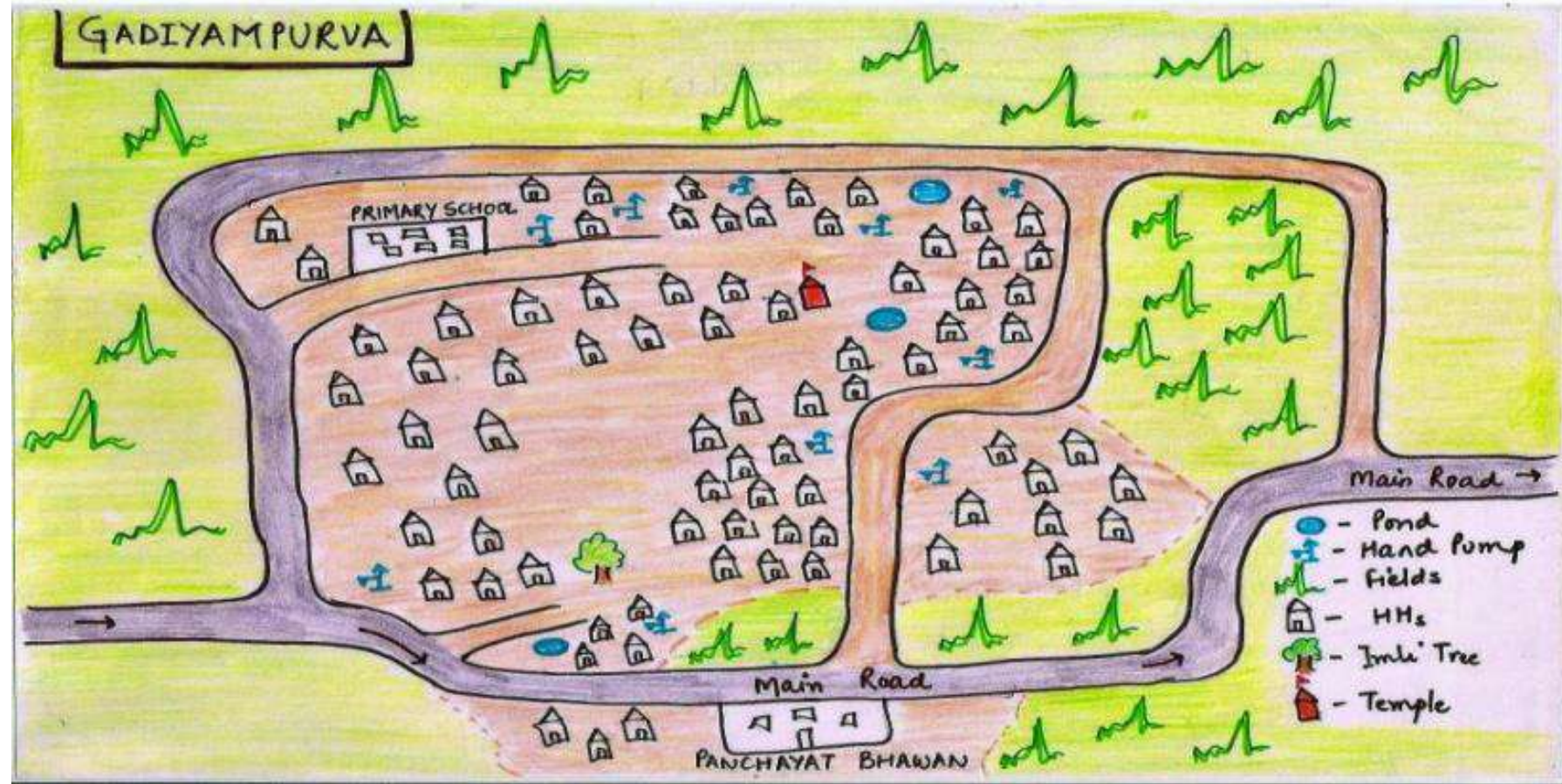
<https://www.youtube.com/watch?v=JEkPS5m8rBY>

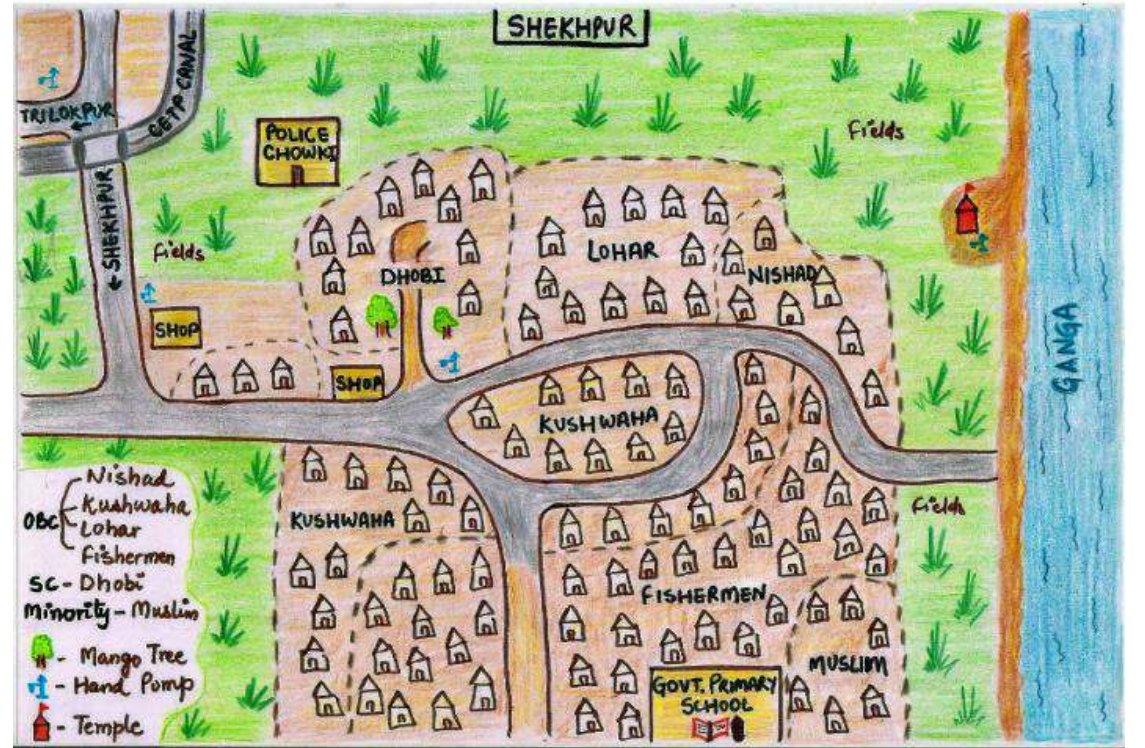
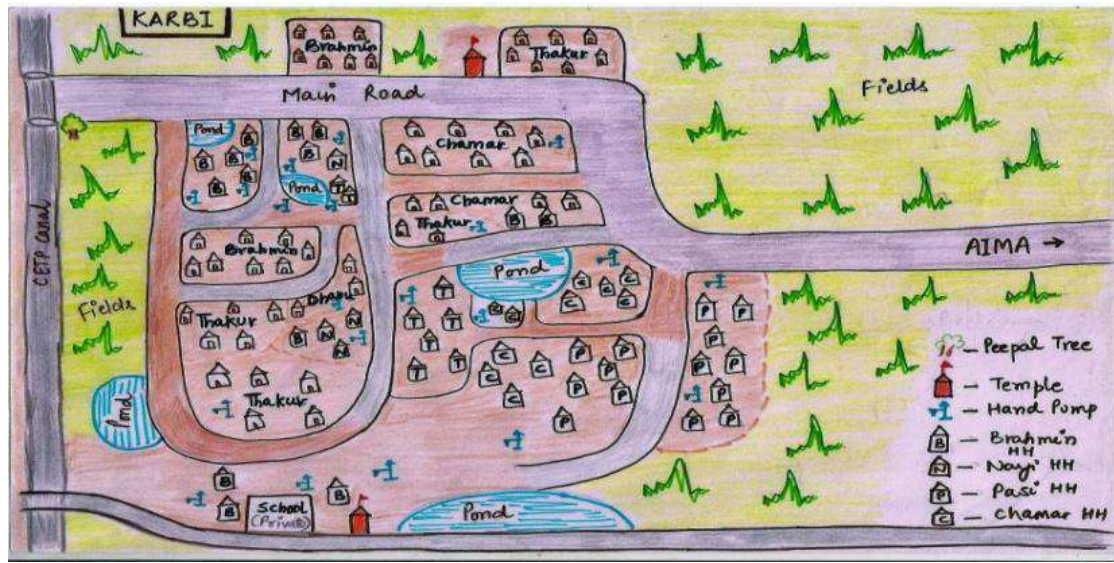
- Walking the tight rope for water

<https://www.youtube.com/watch?v=4qgbJ0vfn-Y>

# Resource Mapping - Major Water Repositories with GPS points – Geotag app

- Traditional water bodies
- Man-made reservoirs
- Lakes and rivers
- Springs
- Forests, fields
- Wetlands





# Documentation

- Government schemes to promote water conservation –RWH and revival of traditional ponds
- Basic Data on the village visited (Google forms) <https://forms.gle/HXardnSM1zGNx7Cv8>
  - Name of the state, district and village
  - Name and contact number of the youth fellow
  - Name and contact of Sarpanch
  - Number of Houses
  - Population
  - Public buildings – School, Panchayat office, Community Center, Primary health care center
  - Average rainfall
  - Soil type (Sandy, Loamy, Clayey, Mixed)
  - Topography (Plain/ Hilly)
  - Number of ponds/lakes/wetlands/well/government borewells and condition (clean, silted, filled with garbage)
  - Water User Association /Jal Samiti/Pani Panchayat/ Other groups details if present

# Establishing an Information Center



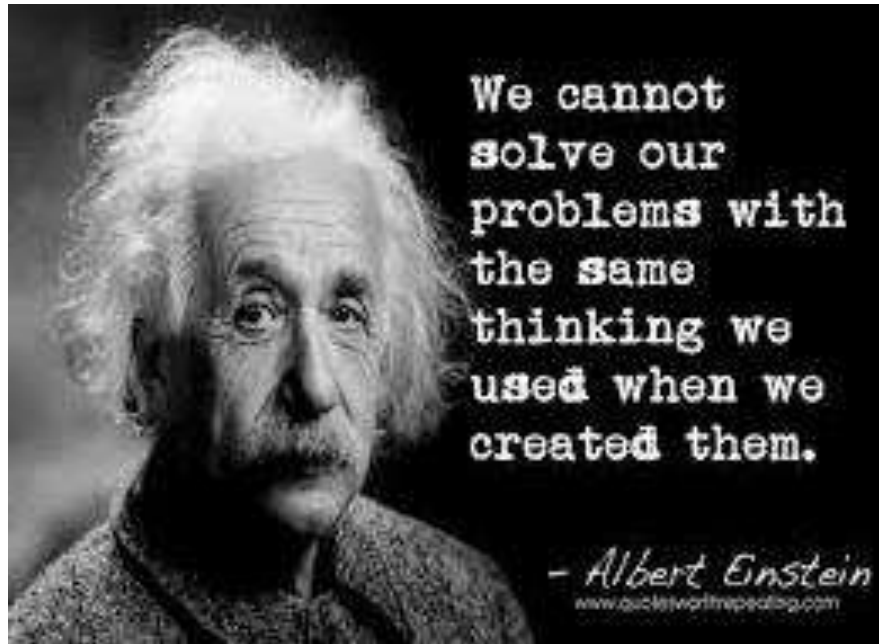
- **Jal Shakti Kendra/ Water Knowledge Center**
  - One stop information hub on water conservation (**A helpline number**)
    - Who to approach for Rainwater harvesting?
    - What will be the cost?
    - How much water can I harvest ?
    - Any support from the government?
    - Any information manual?
    - How do I maintain the structure? etc



**IDEAS**

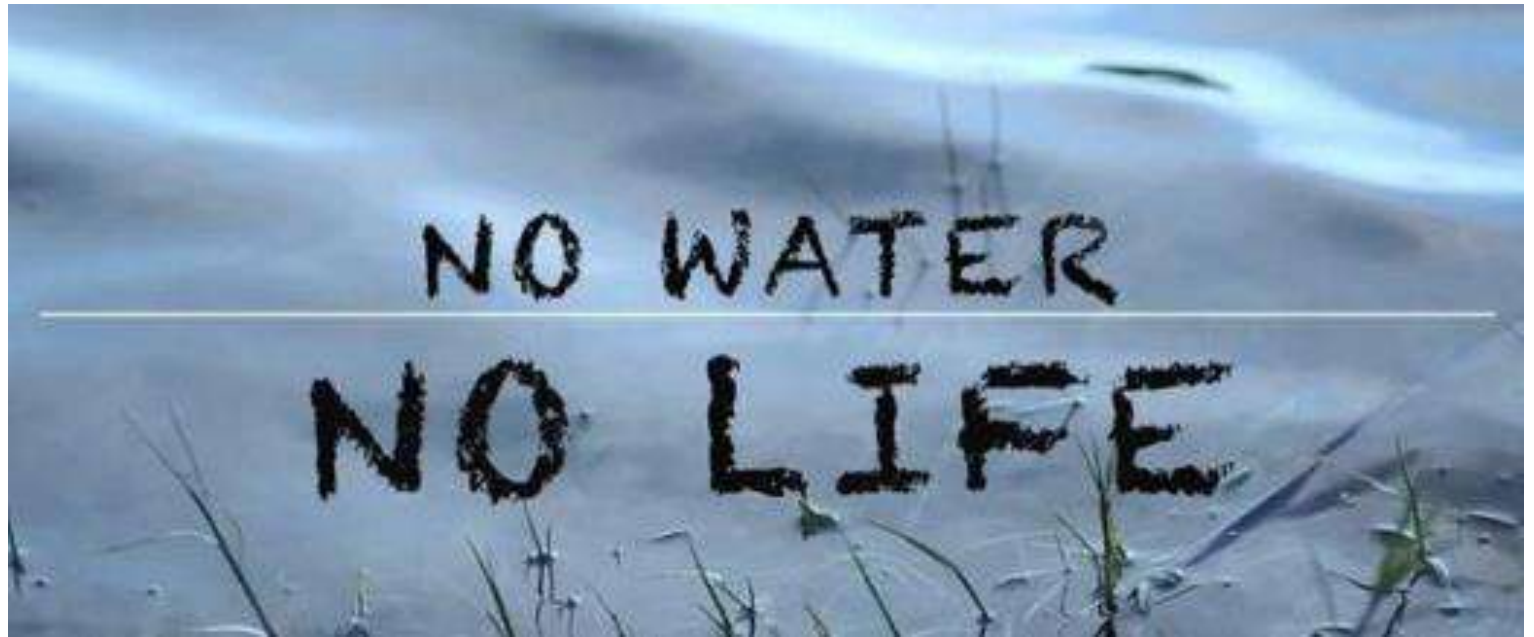
**+ ACTION**

**= CHANGE**



We cannot solve our problems with the same thinking we used when we created them.

- Albert Einstein  
[www.quotesworthinspiring.com](http://www.quotesworthinspiring.com)



NO WATER  
NO LIFE



If you are going to change the world then start with yourself.



THANK YOU

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