SEHGAL FOUNDATION

TOGETHER
WE EMPOWER
RURAL INDIA

- Every person across rural India deserves to lead a more secure, prosperous, and dignified life.

- Our mission is to strengthen community-led development initiatives to achieve positive social, economic, and environmental change across rural India.

The Foundation team works together with rural communities to create sustainable programs for **managing water resources**, **increasing agricultural productivity** and **strengthening rural governance**.

Good Rural
Governace

Water
Management

Agricultural
Development

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Rural
Research

Community
Media

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WATER MANAGEMENT TRANSFORMS VILLAGE LIFE

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- Safe water in schools for consumption and sanitation
- Check dams for water conservation
- Water saving irrigation

Impact: The availability and quality of water are being improved

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AGRICULTURAL DEVELOPMENT ASSISTS RURAL FARMERS

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- Empowering women farmers
- Income enhancement practices
- Sustainable agriculture

Impact: Promoting sustainable farming practices increases productivity

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GOOD RURAL GOVERNANCE EMPOWERS VILLAGERS

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- Promoting Citizen Actions (Sushasan Abhi)
- Strengthening Village Level Institutions

***Sushasan Abhi* (Good Governance Now)**

Reached **403** villages

151,133 villagers

(50.75 % women)

Strengthening Village-level Institutions

Reached **53** villages

3,078 *Sushasan* Champions prepared through village/block leadership schools

22,971 villagers participant in legal literacy camps for solving local problems

Trained **218** Village Health Sanitation and Nutrition Committee members

Trained **320** School Management Committee members

Trained **126** Panchayat (village council) members

Impact: Citizen participation leads to better delivery of services

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SEHGAL FOUNDATION'S WATER MANAGEMENT PROGRAM

-Improving quality of rural poor through effective water management

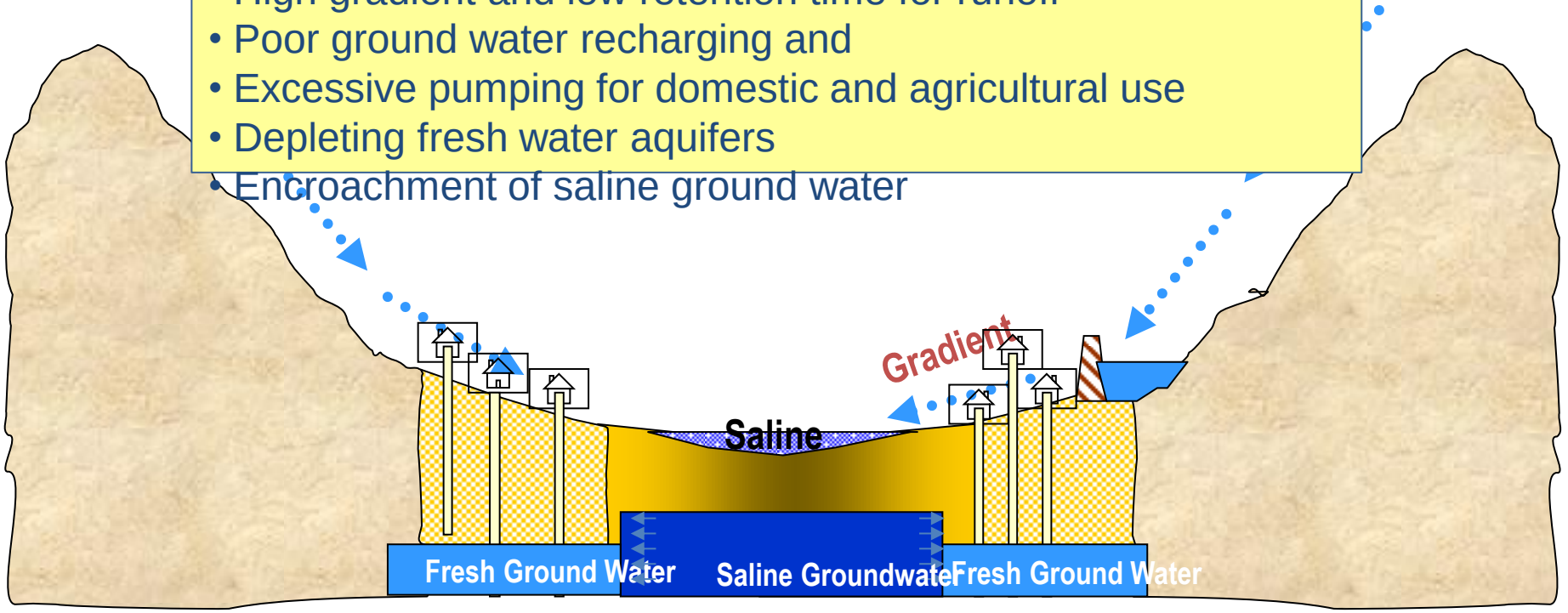
Population: 1.1 Million

Out of 503 only 63 villages have fresh ground water

Rain fall: 594 mm (Non-uniformly distribution)

Primary water source: Groundwater (78% - Saline, TDS: >3500 ppm)

- High gradient and low retention time for runoff
- Poor ground water recharging and
- Excessive pumping for domestic and agricultural use
- Depleting fresh water aquifers
- Encroachment of saline ground water



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THE PROBLEM

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Scenario	Limited surface and ground water	Shortage of water for drinking & irrigation	Limited employment opportunities and low income
Consequences	Overexploitation and rapidly declining fresh water resources	Deterioration in quality of existing water sources	Women drudgery
Outcome	Poor health	Lack of education	Poverty

In absence of water, villages lack prosperity
(Social, Economical, Ecological and Environmental)

Females travel several miles everyday to collect water

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Apart from women drudgery
personal security, health and education are at stake

High prevalence of water borne diseases and stunt growth of children

- Ground water depleting @ 250-300 mm every year due to over exploitation
- Small pockets of sweet water available at foothills
- Only one subsistence crop per year
- Drinking water unfit for consumption (WHO standards)

  - **Nitrates : > 122%**
    Blue Baby syndrome, renal failure, hemoglobin reduction, neurological problems
  - **Fluorides : > 50%**
    Dental problems, abnormal bone growth in spine and crippling
  - **Iron : > 233%**
    Pancreatic dysfunction, gastro dysfunction, affects liver and kidney

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Farmers loose their crops, the only source of earning

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Agriculture forms the **backbone** of development of India, as **52 per cent work force** is still engaged in agriculture for its livelihood and is important for **food security and inclusive growth.**

- But, more than **60 %** agricultural land in India is **rainfed**.
- **Water scarcity causes loss to crops**, low yield, poor quality, and increase abandoned acres.
- Water, as the most **critical input** in agriculture production, is often the **limiting factor in the semi-arid areas**.

PRIORITY AREAS OF WATER MANAGEMENT

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- **Source augmentation** (supply side management)
- **Adoption of water conservation** practices (demand side management)
- Promotion of **efficient irrigation practices** (drip, sprinkler, field bunding)
- Proper **recycling and reuse of waste water**
- Development of **community based organizations** (CBO) & village level institution (VLI)
- **Awareness and capacity building** programs for effective management
- **Convergence** of various government programs and schemes

Our water management program is covering 250,000 people across 74 villages of Haryana and Rajasthan

WHAT WE DO

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Identify problem | Design solutions | Empower community

1. **Water augmentation** to improve surface and ground water availability
2. **Promotion of safe drinking water** to improve access to water and to minimize risk of diseases
3. **Waste water disposal** for creating clean & hygienic surrounding in villages and cut down the cycle of water borne diseases
4. **Water literacy** for sensitization and increasing awareness on water conservation issues
5. **Training and empowerment of local communities** for management, operation and maintenance of interventions for ensuring long term sustainability

Local communities are involved in all stages of projects (planning, designing and implementation)

IOWA- Demoines (USA) community supported RWH projects

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Children enjoying safe drinking water through rainwater harvesting system in government schools of Mewat, Haryana (India)

Ujina school

Bajhera school

Lafuri school

Akleempur school

Hand pump amended to pump water while children play

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Water gets pumped up in storage tank (without electricity) while children play on sea-saw attached to a hand pump and later used for sanitation purpose in schools of Mewat, Haryana (India)

Recharge wells for ground water recharging

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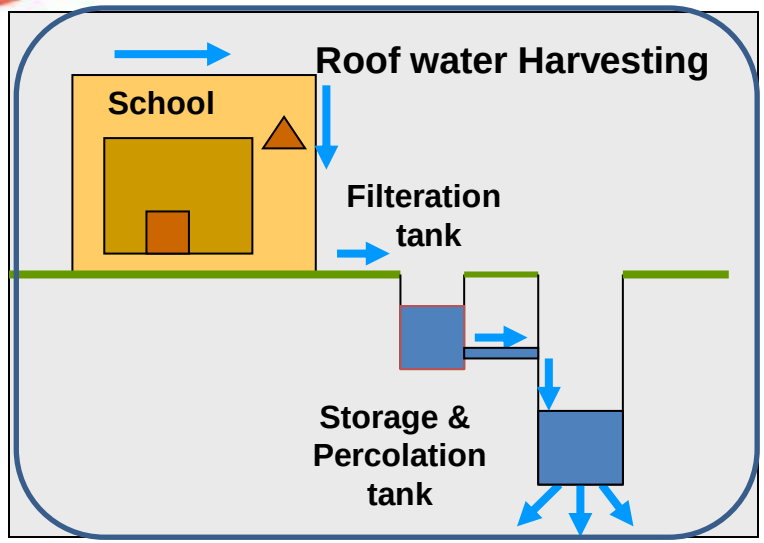

Recharge wells for ground water recharging

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Recharge wells collect and divert rainwater into underground strata (deep) and help in raising the ground water levels

Recharge wells for irrigations purpose

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Photo: Recharge wells in Shahzadpur and Bazidpur villages

Creating fresh water pocket within saline GW zone

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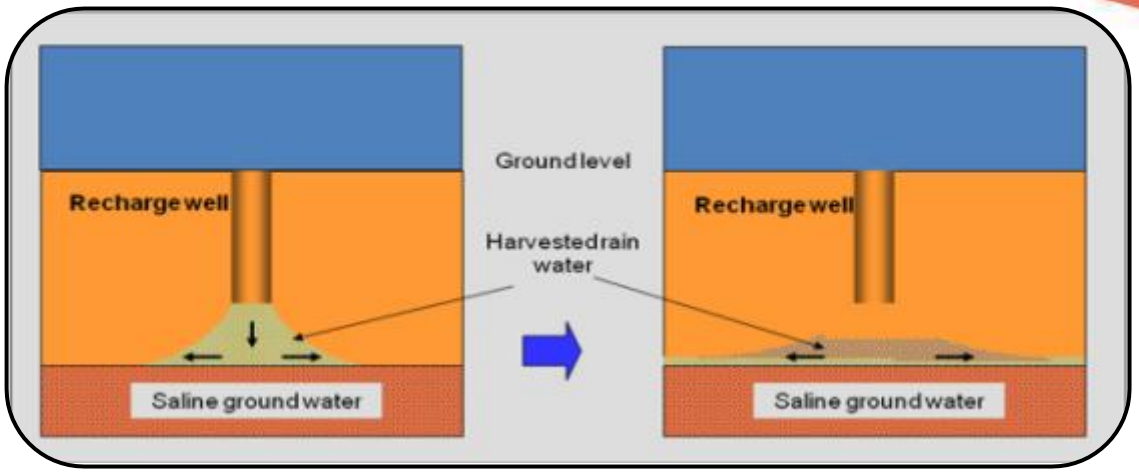

Fig: Traditional recharging method

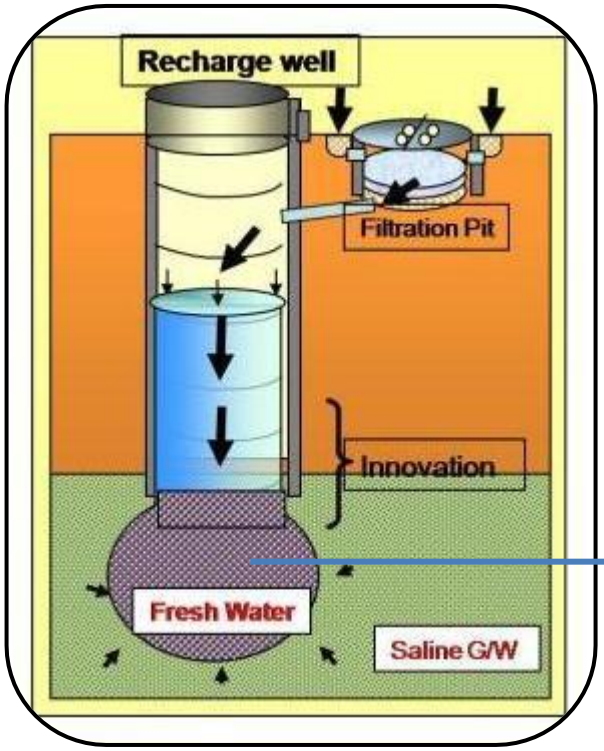

Fig: Innovative model of recharging

Fig: Fresh water pocket

Exploitation of fresh water pocket for drinking & cooking

Pressure recharging system at Khedli Khurd Govt. school

Fresh water pocket

TDS at village Khedli Khurd

- Groundwater - 1700 PPM
- **RWH pocket: 52-67 PPM**

School children benefitted from fresh water pocket

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Pressure recharge well system at Rajaka, Untaka and Malab government schools

In absence of drainage network
waste water generally accumulates on village streets only

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Treating waste water naturally

Small interventions:

- ✓Soak pits
- ✓Soak well
- ✓Soak trenches

Many villages made completely waste water free - Mundaka, Untaka, Raipuri, Shadipur, Jalalpur, Mamlika…

Waste water free streets in Mundaka

Photo: Village streets full of waste water before

Photo: Same street after construction of soak pits

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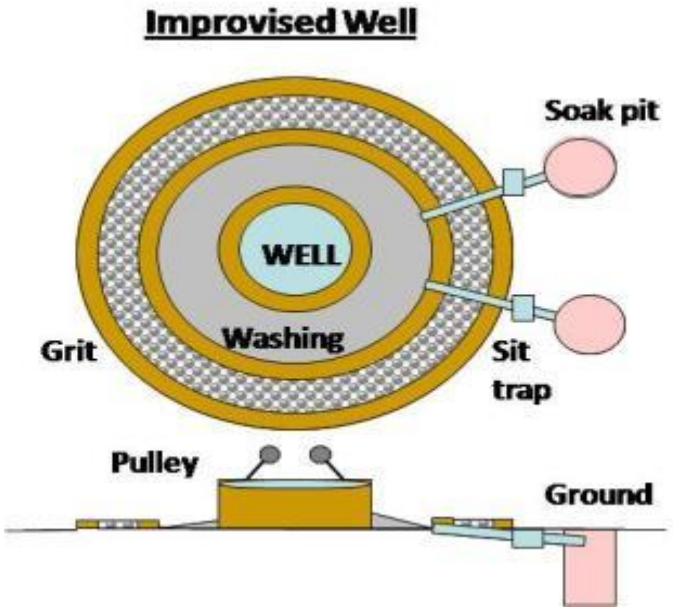
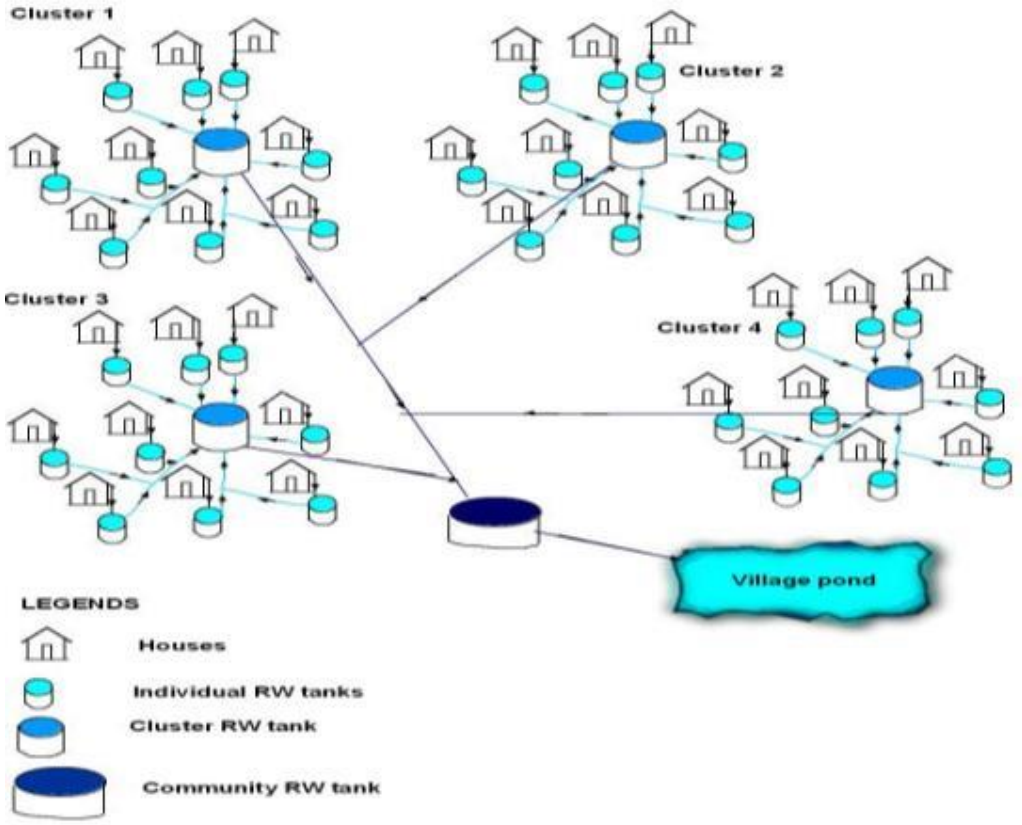
Improving sanitation & Hygiene conditions around drinking water sources



An answer to semi-arid region's villages water scarcity



- ✓ Individual and cluster tanks fed by roof water used for drinking and cooking
- ✓ Community tanks fed by excess roof water and filtered pond water and used for other domestic needs

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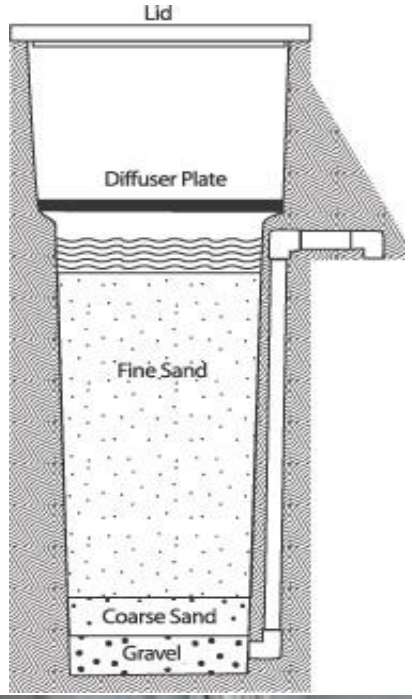
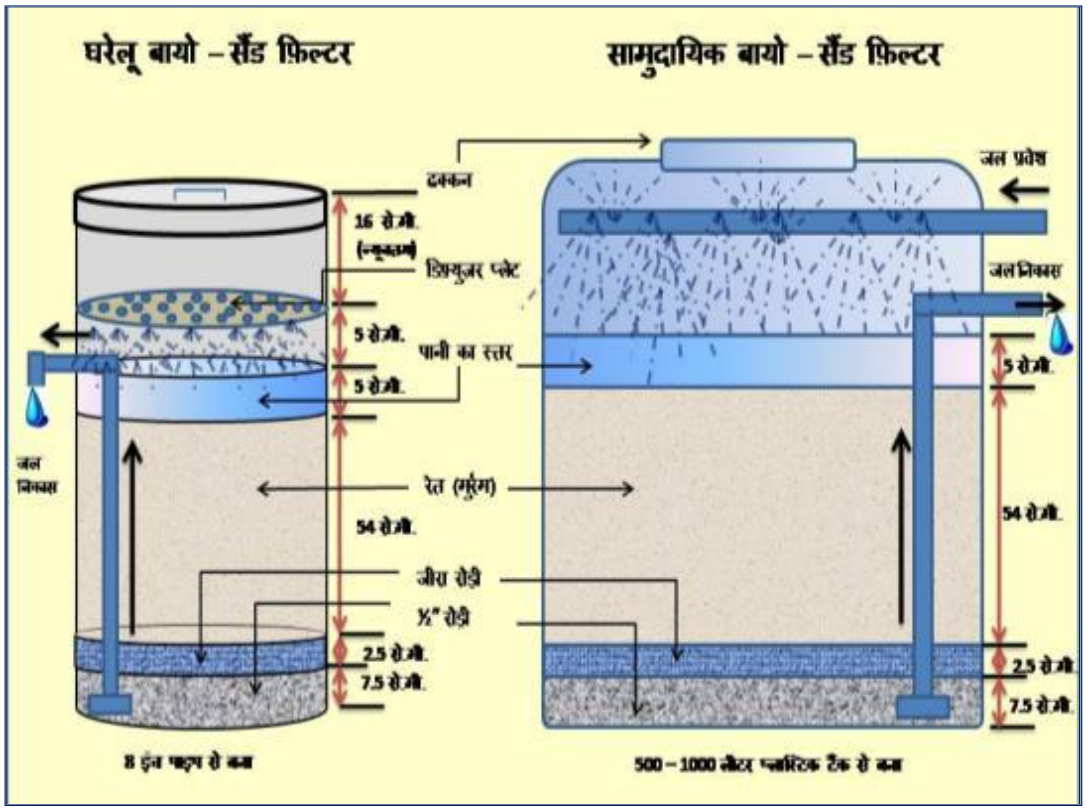
Donor: Department of Science and Technology, Govt. of India

Prevents water-borne diseases



Removes:

- Turbidity, Microbiologic contaminants
- Iron and with simple adaptation arsenic



Contour trenches

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Ditches dug along hillside to minimize runoff velocity, soil erosion and increase water percolation

Nallah bunds and loose stone structures

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Barriors on water streams / rivulets to minimize runoff velocity, soil erosion and increase water percolation

Snapshots of some check dams

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Check dams help in reviving public water supply tube wells which have earlier gone dry/saline


Check dam at Kotla


Check dam at Ghaghas

Snapshots of some check dams

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Harvesting billions of litres of rainwater every year

Check dams along hill slopes to harvest rainwater

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Check dams for augmenting fresh water zones along hill slopes

Check dam in Patkhori village supported by The Mosaic Fertilizers, India providing more water for irrigation to farmers apart from improving ground water levels and improved water quality.

Check dams for augmenting fresh water zones along hill slopes

Check dam full with rainwater in Patkhori village

Check dams for augmenting fresh water zones along hill slopes

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Another check dam in Rawli village supported by Japan Embassy

Check dams for augmenting fresh water zones along hill slopes

Check dam in Khohar village supported by The Mosaic Foundation, USA

Check dams for augmenting fresh water zones along hill slopes

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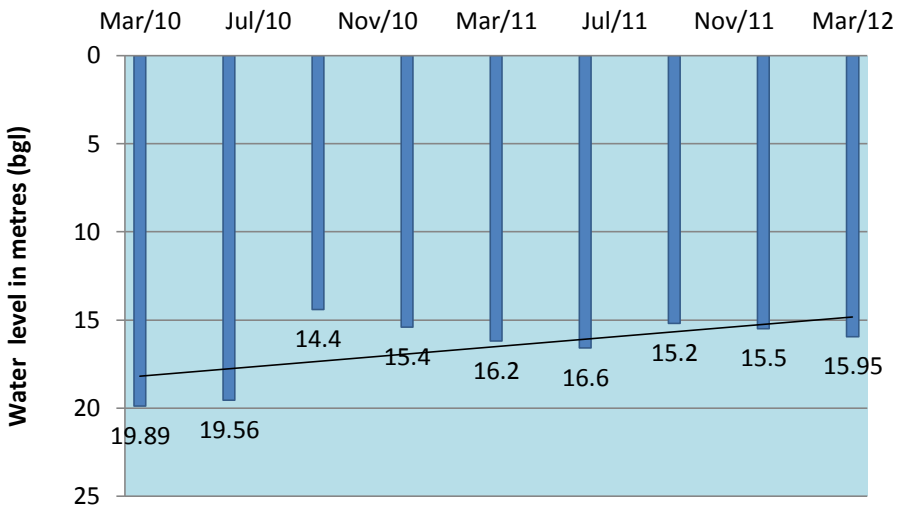
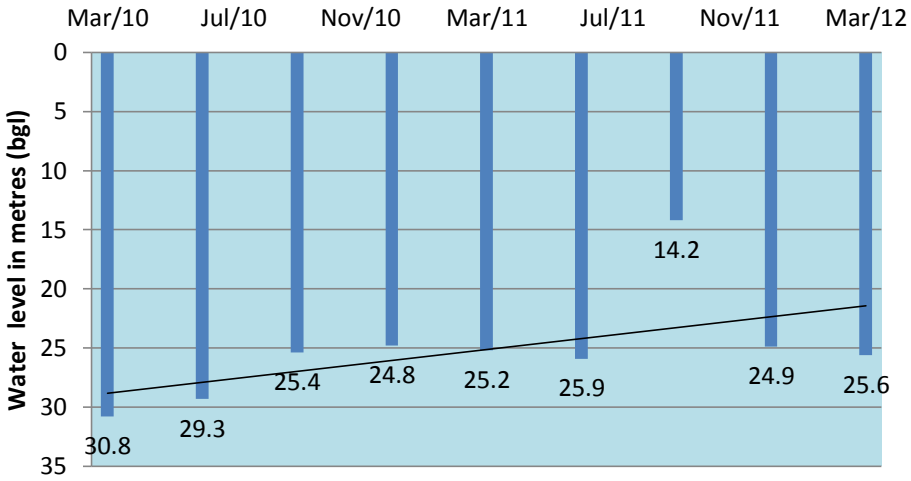
An areal view of water filled Khohar check dam harvesting apx. 320 million water each year @ 55,980 litres/US $ investment

Experiencing steady rise in ground water levels

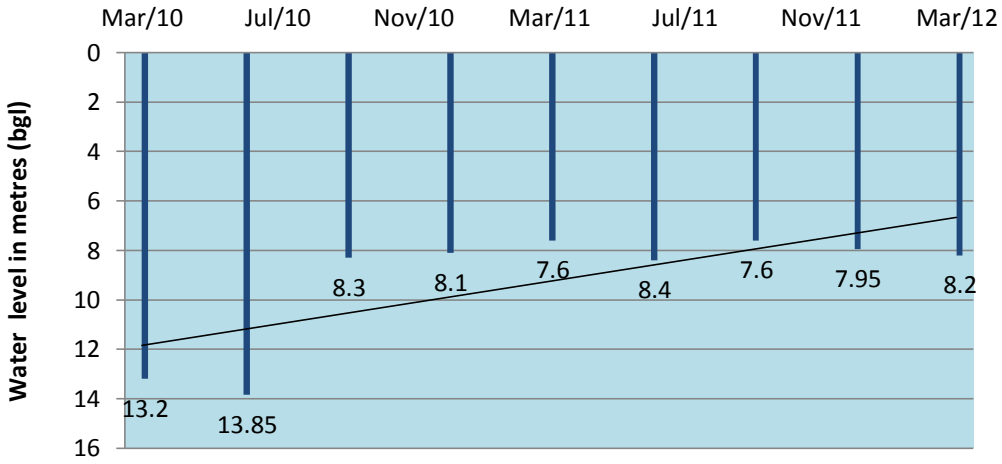
Trend of ground water in Kotla -Masjid Kui (2010-12)



Trend of ground water level in Bhond- Nooru well (2010-12)



Trend of ground water levels in Agon - Abdul well (2010-12)



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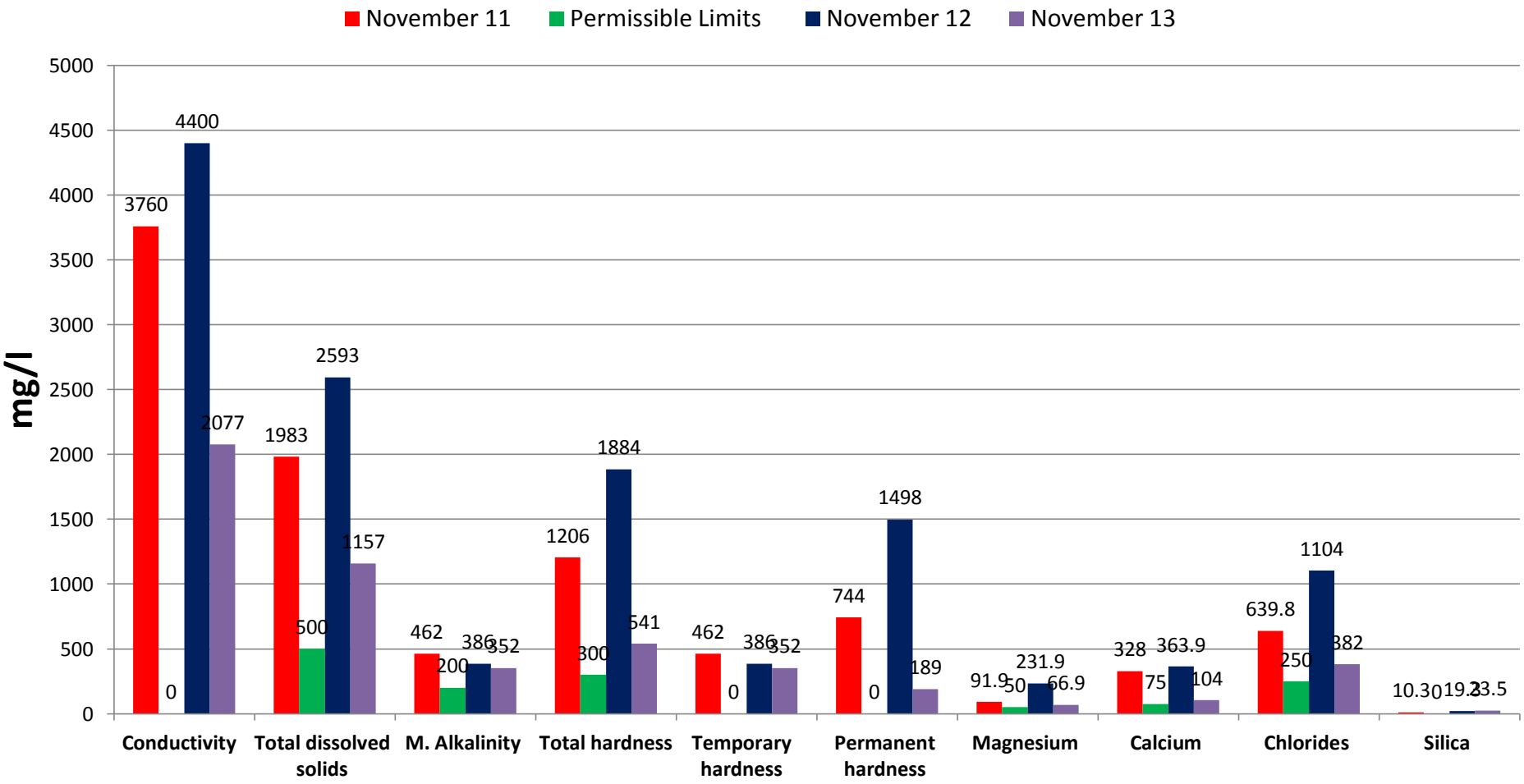
Ground water quality of Ibrahim's Kua in Dhadoli Kalan (2011-2013)



Ground water quality is also improving as a result of dilution of groundwater with rainwater

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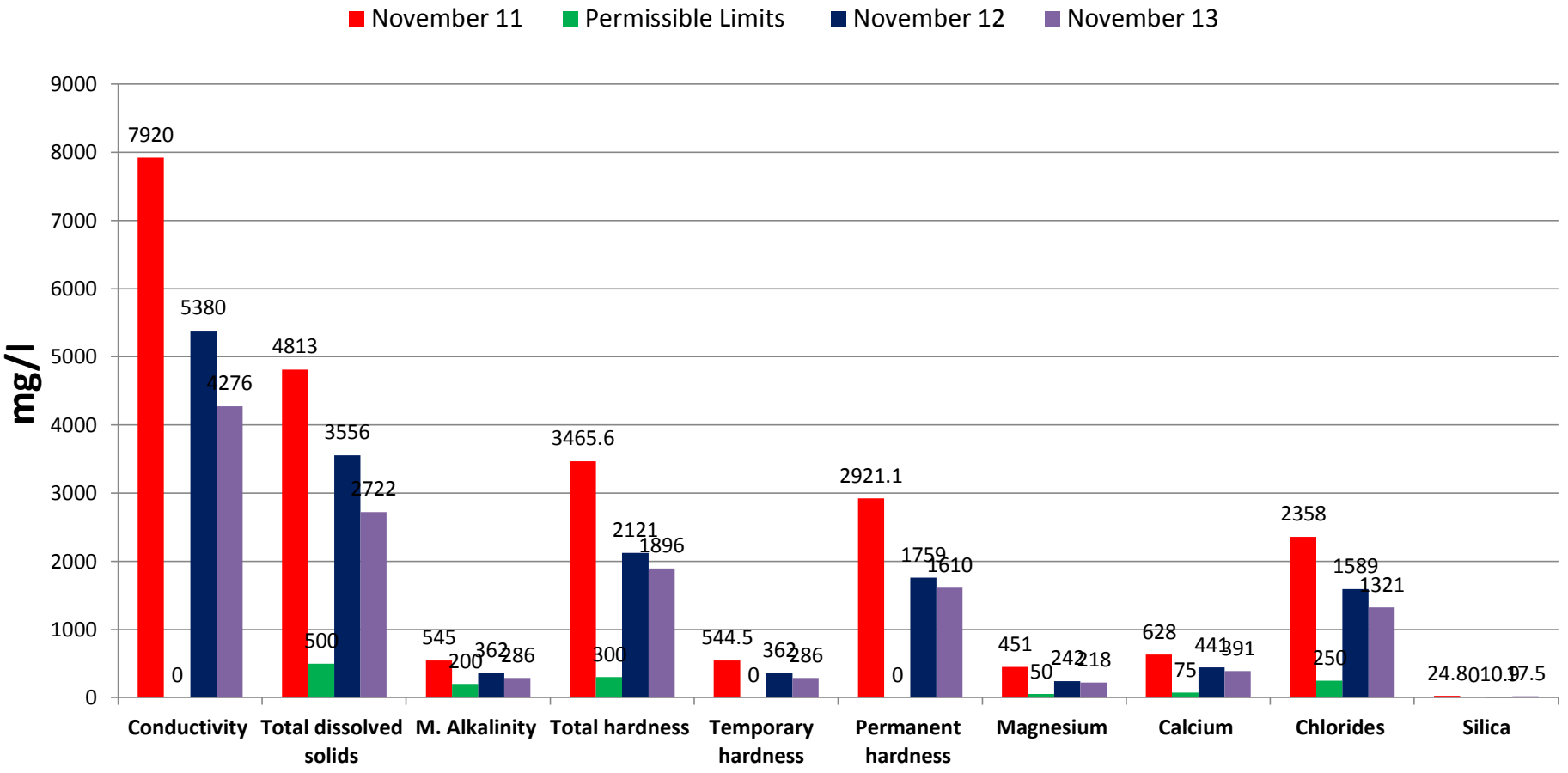
Ground water quality of Nisar's Hand pump in Dungra Shehzadpur (2011-2013)



Ground water quality is also improving as a result of dilution of groundwater with rainwater

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Awards and recognitions

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Recipient of Best Water NGO by UNESCO & Water Digest……..

three years in a row

Best Water NGO award 2007-08
Water Harvesting

Best Water NGO award 2008-09
for Revival of Rural Water Resources

Distinguished Water NGO 2009-10
for Revival of Rural Water Resources

"Ground Water Augmentation Award-2009": Best NGO Northern Zone- by Ministry of Water Resources

Jal Star Award -2012
(by Bhaskar Foundation)

FICCI Water Award- 2012: Best NGO - Water

Thank you!

Reach us at:

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Dept. of Science and Technology, Govt. of India Water Projects

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