

COMPANY PROFILE

Rain water harvesting:
Technological advancement

WHAT IS RAINWATER HARVESTING

- Rainwater harvesting is an act of collection of rain water and either store it for drinking purposes or allowing discharge to ground aquifer.
- Storage of rain water is a mandatory requirements in the devastating drought regions like south-eastern Maharashtra, northern Karnataka, Andhra Pradesh, Odisha, Gujarat, Telangana and Rajasthan and Bundelkhand region of UP.
- Discharge to the ground aquifer may be through injection well, open pond or several other means, used in all over the Nation, may be in the river basin or the rock beddings. 1- Precipitation

NEED FOR RAINWATER HARVESTING

BAR CHART FOR SHOWING THE DECREASING WATER LEVEL IN MANY AREAS.						
1	kidwai nagar	depth of water level				
		2007				23.9 mtr.
		2017				27.77 mtr.
2	Fazalganj					
		2007				25.6 mtr.
		2017				28.05 mtr
3	Rawatpur					
		2007				24.6 mtr.
		2017				27.6 mtr.
<i>AVERAGE RECEDED BY 40 TO 70 CMS PER YEAR</i>						

NEED FOR RAINWATER HARVESTING

About Kanpur City:

- As per a report published in The Times of India more than 1,00,000 submersible pumps in private houses and 170 deep bore wells of Jal Sansthan are lifting more than 2,50,00,000 litres of ground water per day.
- The rate of declining the ground water table, is 40 to 70 cm per annum in different parts of the Kanpur city.
- With the increasing urbanisation and concept of smart city, we are leaving no space for percolation of run off by making every footh-path paved.
- Ponds have already finished due to the colonization.

NEED FOR RAINWATER HARVESTING

- **Environmental Benefits:**

- Recharge of groundwater, replenishes the deeper layers of the earth's crust which in turn insulates the earth from rise in temperature, reducing global warming.
- Rainwater can enhance limited ground resources. More importantly, with reduced drawing out of groundwater, low yield borewell and springs, can last indefinitely.
- Rainwater harvesting could significantly reduce water removal from rivers for urban area water supply, ensuring more availability of water for agricultural uses.
- Reduces surface runoff and loss of top-soil, thereby avoids silting of ponds and lakes.
- Groundwater recharging promotes water neutrality by diverting the rainwater into the earth's strata, which otherwise would have been wasted.
- Vanishes or reduces the intensity of floods, reduces the public losses and erosion of lands
- All materials used in rainwater harvesting, are Eco-friendly and recyclable.

HOW MUCH WE CAN CONTRIBUTE

- For a plot size =300 sq. m. in Kanpur with 65% coverage:
- Total roof top run off = $300 \times 0.65 \times 0.7 \times 0.95 = 129.68 \text{ m}^3$ say
1,30,000 litres of rain water over a year
- For the month of July only (Rainfall =300 mm), 55,600 litres
- Annual consumption of a family of 5 person (a national standard) = $150 \times 5 \times 365 = 2,73,750$ litres
- This way the contribution will be only about 50% of what we consumed.
- This way, we need to contribute more through harvesting of surface run off of our big establishments like Industrial complexes, government offices, schools & Institutions, etc.

Bye laws and ordinances by the Governments

- Construction of Rain water harvesting system is mandatory for the plots and existing houses in plot of 300 sq. M or more. No map will be sanctioned from the authority without the provision of RWH.
- For township and industrial plot of 20 acers or more, there will be a provision of constructing a pond of area 1 acre or 5% of plot area within parks and open category, whichever is more.
- For Plots of 20 acer or less in township of industrial complexes RWH system is also mandatory.

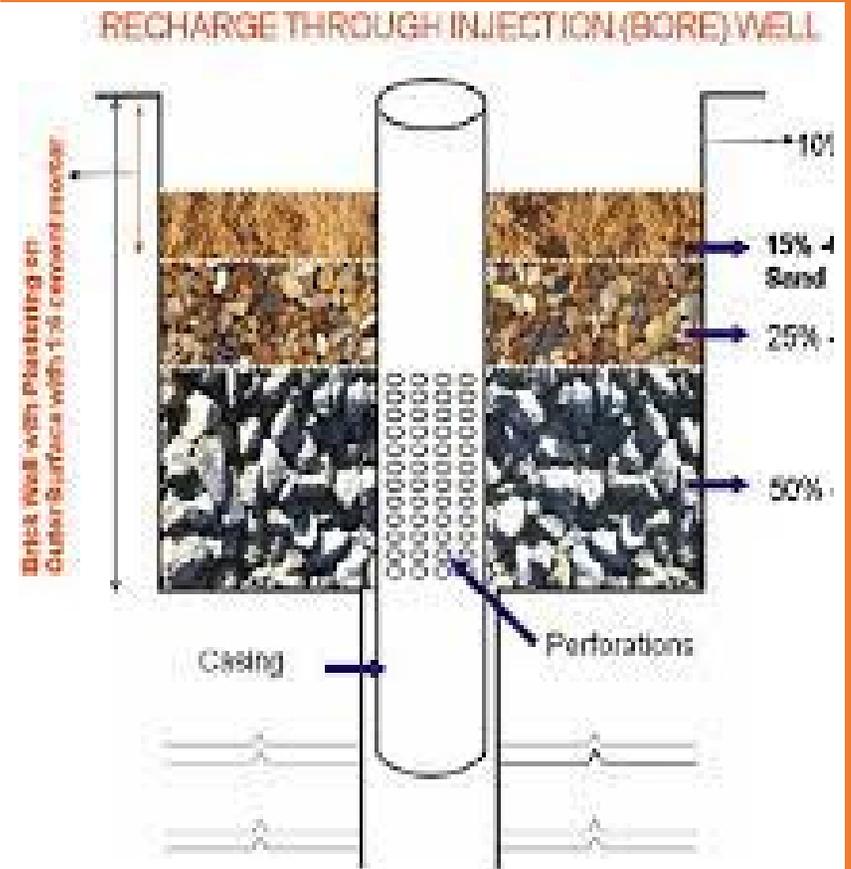
PROMOTIONS BY THE GOVERNMENTS

- The Master Plan envisages construction of about **1.42 crore** Rainwater harvesting and artificial recharge structures in the country to harness **185 Billion Cubic Metre (BCM)** of monsoon rainfall under the ordinances from State Govt. And UT.
- Promoting by awarding the peoples, conducting conferences and seminars.
- Allocation of Rs 6000 crores under Atal Bhujal Yojana (ABHY), in the over-exploited and water stressed areas fall in the States of Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh.

CONVENTIONAL METHODS OF RAIN WATER HARVESTING

METHOD -1: Settling tank

- Circular or rectangular in plan
- Usually 3 to 6 meter in depth
- Almost 80% filled with filter media comprising of various grade of sands and gravels.
- A injection well is provided to discharge the water into the unsaturated stratum.
- Bar screens are added to isolate, tree leaves and larger size articles



TECHNOLOGICAL INNOVATION IN ROOF TOP FILTERS – RAINY FILTERS

- **Uniqueness of Product Technology**

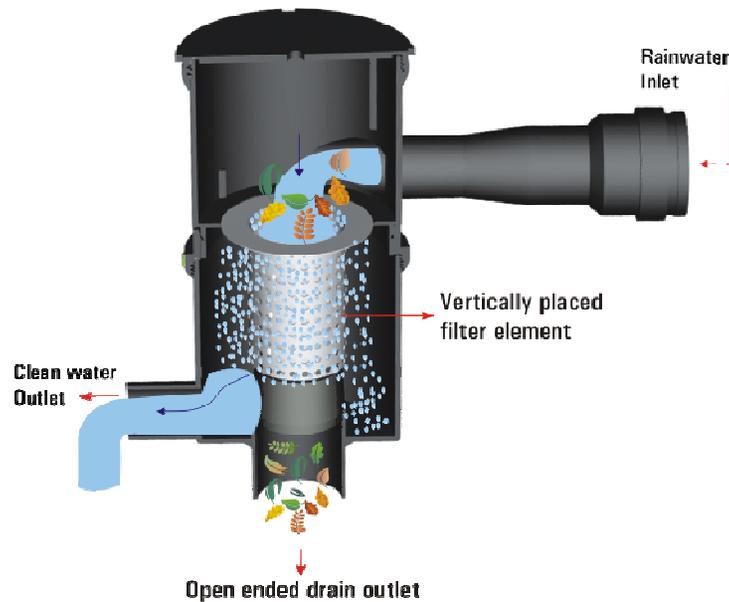
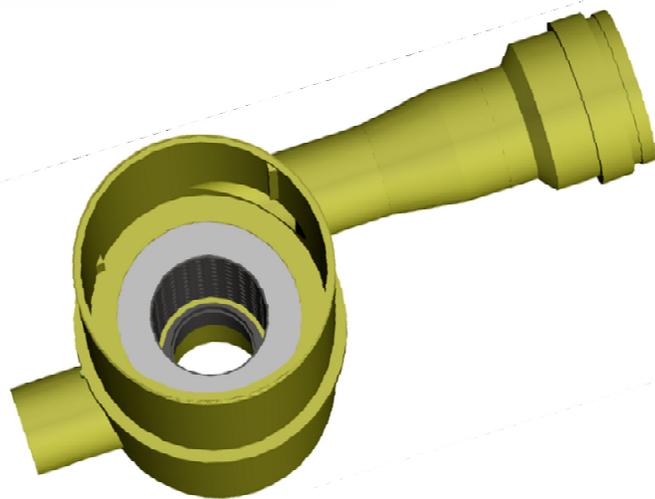


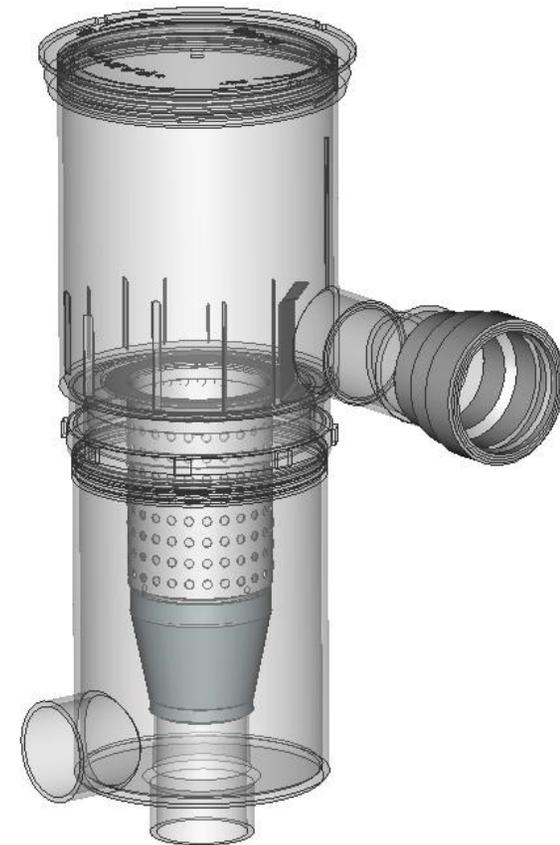
Fig. 3: Cut section view of Rainy Dual Intensity RWH Filter



Rainy dual intensity filters – roof top



- Open ended, Clog free
- Auto flush out of dirt & debris
- Self Cleaning
- No External Power - Works By Gravity Head less Than 1 Feet
- Working Principle – Cohesion & Centrifugal force
- No Moving Parts , No wear & tear
- Various Models Ranging from 50 TO 500 Square meters Roof area
- Retrofit – any local Plumber Can Fix
- Withstand the Load from 5 MM to 75 Mm intensity of Rainfall per hour (torrential rainfall)
- Cost effective and affordable.

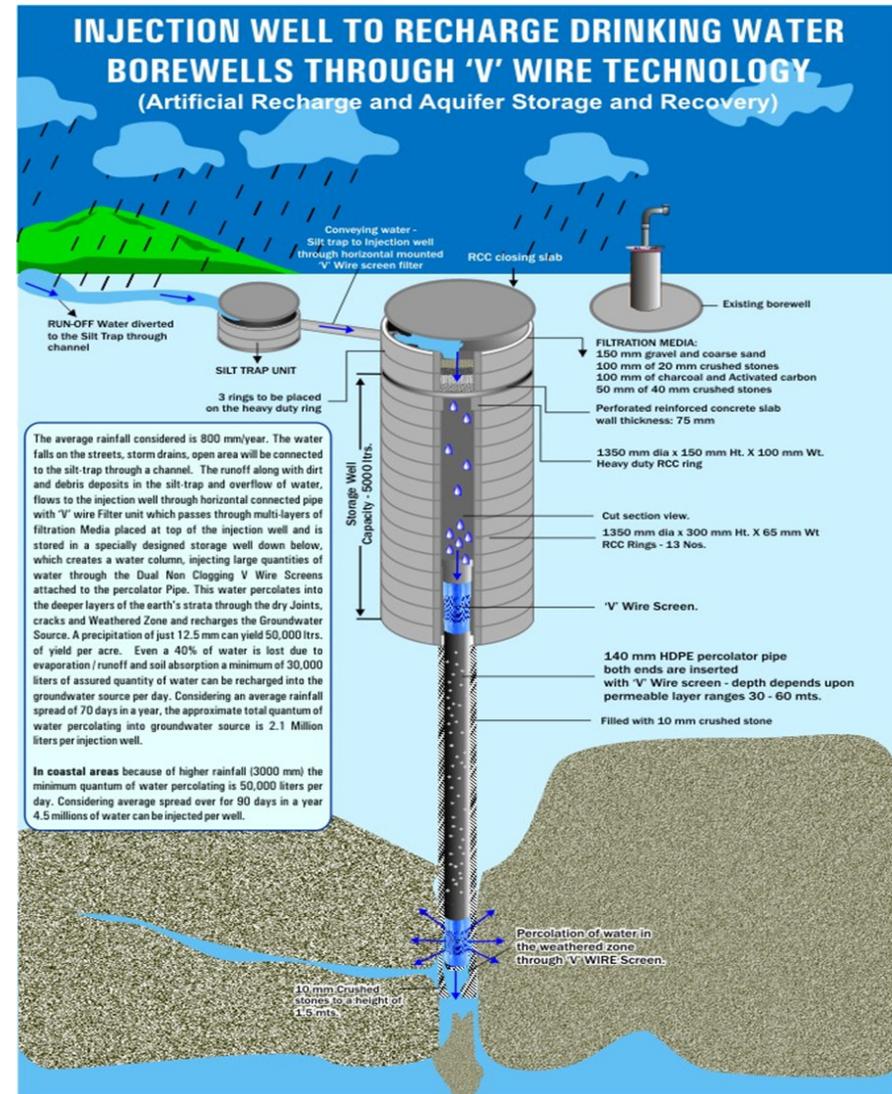


Technology of recharge well with unique V-wire technique



Fig. 2: Front view of 'V' Wire Screen

- The V wire screen is of stainless steel material, grade SS-304, Cage type trapezoidal wire wound screen.
- Screen is evenly distributed continuous slot opening of 0.75 MM, so that it has more open area for minimum turbulence and loss of energy.
- The trapezoidal V shape inwardly widening slots are non clogging, so that sediments have only point contact.
- The diameter of the V wire screen is 150 mm, length 0.5 Metre.



Customized solutions for large area
By using sand filters with back wash facilities.



Channel partner-

- Our channel partners are –M/s Farmland rain water harvesting systems , Bangalore

Who have bagged many national, state and green building council awards in last 20 years



CERTIFICATE NO:
DIPP127303



Government of India
Ministry of Commerce & Industry
Department for Promotion of Industry and Internal Trade

#startupindia

CERTIFICATE OF RECOGNITION

*This is to certify that **ACME SUSTAINABLES LLP** incorporated as a **Limited Liability Partnership** on **02-01-2023**, is recognized as a startup by the Department for Promotion of Industry and Internal Trade. The startup is working in 'Construction' Industry and 'Construction & Engineering' sector as self-certified by them.*

This certificate shall only be valid for the Entity up to Ten years from the date of its incorporation only if its turnover for any of the financial years has not extended ₹ 100 Cr.

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THANK YOU

Regards

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