

BENEFITS OF RAINWATER HARVESTING

1. Improvement in the quality of ground water
2. Rise in water levels in wells and bore wells that are drying up
3. Mitigation of the effects of drought
4. An ideal solution to water problems in areas having inadequate water resources
5. Reduction in soil erosion as surface runoff is reduced
6. Provides high quality water, soft and low in minerals.
7. Reduces the cost for pumping of ground water

DIFFERENT TRADITIONAL RAINWATER HARVESTING SYSTEM IN INDIA



POND (MANIPUR)



LAKE (MANIPUR)



JOHADS (CENTRAL HIGHLAND)



KHONG (MANIPUR)



BAMBOO DRIP SYSTEM (HILLY AREAS OF MANIPUR)



APATANI (EASTERN HIMALAYAN REGION)



PANAM KENI (KERALA)



KHADINS (RAJASTHAN)



ZABO (NAGALAND)



BHANDARAS (DECCAN PLATEAU)



TAANKA (THAR DESERT)



ERI SYSTEM (TAMIL NADU)



KUHL (HIMACHAL PRADESH)



KUNDS/KUNDIS (RAJASTHAN AND GUJARAT)



JHALARAS (JODHPUR)



AHAR (BIHAR)

BENEFITS OF TRADITIONAL WATER HARVESTING SYSTEM

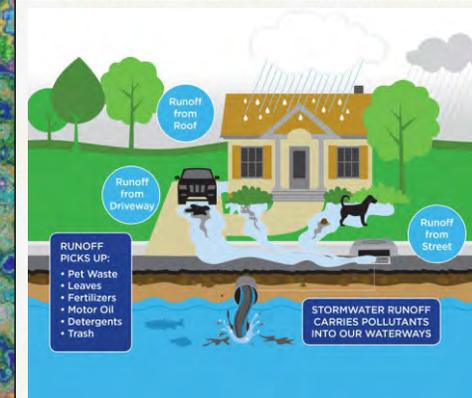
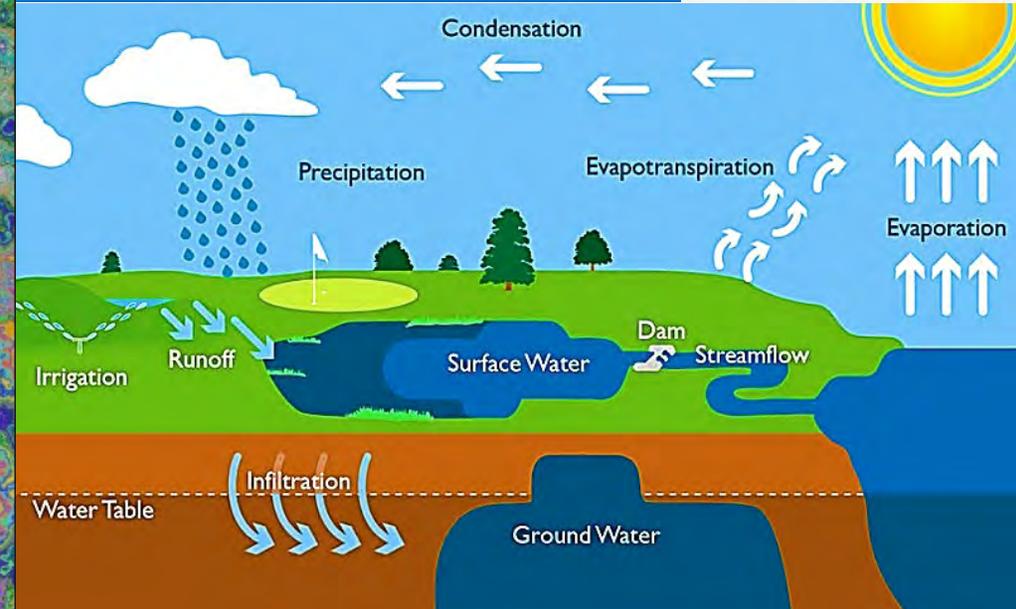
Ecologically safe traditional systems are viable and cost-effective alternatives to rejuvenate India's depleted water resources. Productively combining these structures with modern rainwater-saving techniques, such as percolation tanks, injection wells and subsurface barriers, could be the answer to the water security faced by the State.



TWO WAYS OF WATER HARVESTING

- Surface runoff harvesting - runoff rainwater could be collected and used for recharging aquifers by adopting appropriate methods.
- Roof top rainwater harvesting - rooftop becomes the catchments and the rainwater is collected from the roof of the house. It can be either be stored in a tank or diverted to artificial recharge system.
- This method is less, expensive and very effective. If implemented properly, it helps in augmenting the ground water level of the area.
- Rooftops are favoured because of the large coefficient of runoff generated from them and relatively less likelihood of their contamination.

SURFACE RUNOFF WATER HARVESTING SYSTEM



- Rainwater harvesting appears to be one of the most promising alternatives for supplying freshwater in the face of increasing water scarcity and escalating demand in the urban as well as in the rural areas.
- The pressures on rural water supplies, greater environmental impacts associated with new projects, deteriorating water quality in surface reservoirs already constructed, constrain the ability of communities to meet the demand for freshwater from traditional sources, and present an opportunity for augmentation of water supplies using this technology.
- A sustainable human community should use its resources without endangering the survival of future generations.

MODERN (OR ROOF TOP) WATER HARVESTING SYSTEM

Rooftop rain water harvesting for urban house



Catchment



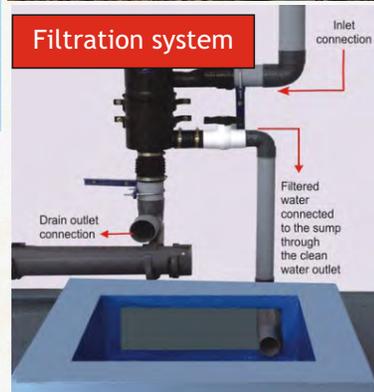
Guttering system



First flush system



Filtration system



Storage system



Inside the storage



Geothermal based storage system

CONCLUSION

- ✓ It is high time to implement rainwater harvesting projects in north-eastern regions of India especially Manipur.
- ✓ These technologies are simple to install and operate. Local people can be easily trained to implement such technologies, and construction materials are readily available. It is convenient in the sense that it provides water at the point of consumption and family members have full control of their own systems, which greatly reduces operation and maintenance problems. Rainwater can be a continuous source of water supply for various usage.

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WHAT IS RAINWATER HARVESTING?

Rainwater harvesting is a simple method by which rainfall is collected for future usage. The collected rainwater may be stored and utilised in different ways or directly used for recharge purposes.

The role of rainwater harvesting systems as sources of supplementary, back up or emergency water supply will become more important especially in view of increased climate variability and possibility of greater frequencies of droughts and floods in many areas.

WAYS TO HARVEST RAINWATER



Rain Water Harvesting (RWH)

WHY RAINWATER HARVESTING?

- Rain is the only natural source of fresh water. Over all, the percentage of total rain that recharges ground aquifers is 5 to 20 per cent.
- Topsoil can hold only fraction of the rainwater in the form of surface runoff. A huge quantity of rainwater ultimately finds its way to the lakes, ponds, etc. through streams without much contribution to the aquifer system.

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