

GEOGRAPHY

PROJECT

Topic:

Rainwater
Harvesting



Name : Aditya .v. Jangol

Std : 8

Roll no : 3

School name : Blooming Buds School

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RAINWATER HARVESTING

Rainwater harvesting is the process of increasing the recharge of groundwater by capturing and storing rainwater locally in sub-surface water reservoirs. It includes activities aimed at -

- i] harvesting surface and groundwater.
- ii] Prevention of losses through evaporation and seepage, and
- iii] all other hydrological studies and engineering interventions, aimed at conservation and efficient utilisation of the limited water endowment of an area such as a watershed.

Need For Rainwater Harvesting

In India, we have an acute shortage of water during the year. This is because we have not cared to conserve water or rationalised its use. The annual rainfall in India is 1,170 mm [46 inches]. This is higher compared to the world average of 800 mm [32 inches]. Ironically, even Cherrapunji, which receives about 11,000 mm of rainfall annually, suffers from acute shortage of drinking water. This is because rainfall in India occurs in short spells of high intensity. Due to these high intensity rain the water falling on the surface tends to flow away rapidly, leaving very little for the recharge.

This makes most parts of India experience lack of water even for domestic purposes.

Objectives Of Rainwater harvesting

The main objectives of rainwater harvesting are the following:

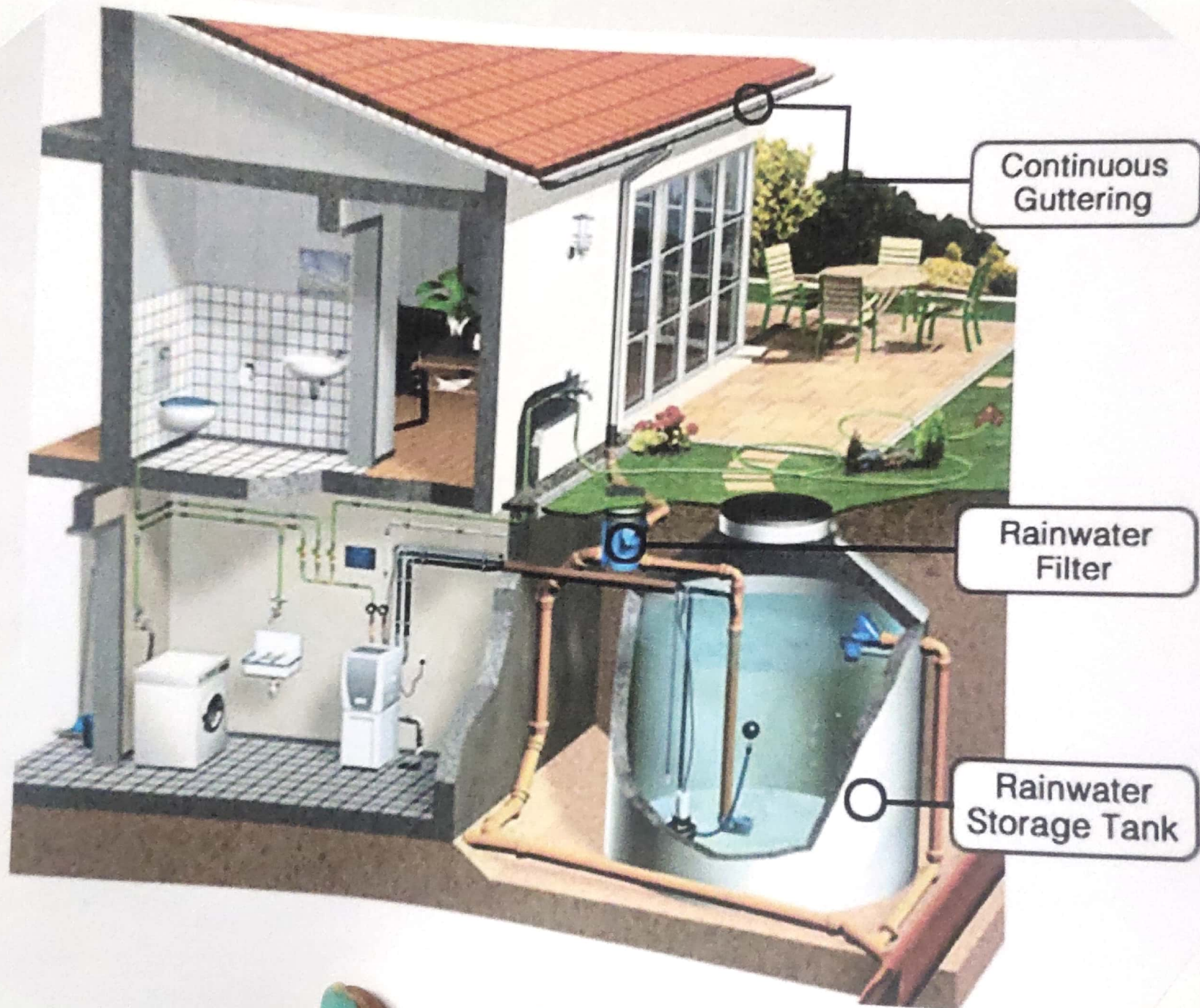
- * Meeting the ever increasing demand for water.
- * Reducing the run-off which chokes drains.
- * Avoiding the flooding of roads.
- * Augmenting the groundwater storage and raise the water table.
- * Reducing groundwater pollution.
- * Improving the quality of groundwater
- * Reducing the soil erosion.
- * Supplementing domestic water requirement during summer and drought.

Rain is the primary source of water according to the hydrological cycle. Rivers, lakes and groundwater are all secondary sources of water. We depend entirely on such secondary sources of water, and most of the time forget the value of rainwater.

Water Harvesting Mechanism

The elements of water harvesting are given below :

- 1] **Catchments** : The catchment of a water harvesting is the surface which receives rainfall directly. It can be a paved area like a terrace or courtyard of a building or an unpaved area like a lawn or an open ground.
- 2] **Conduits** : Conduits are the pipelines or drains that carry rainwater from the catchment or rooftop to the harvesting system.
- 3] **Storage facility** : Rainwater can be stored in any commonly used storage containers like R.C.C, masonry or plastic water tanks.
- 4] **Recharge facility** : Alternative to storing, rainwater can be used to recharge groundwater aquifers. This can be done through any suitable structures like dugwells, borewells, recharge trenches and recharge pits.



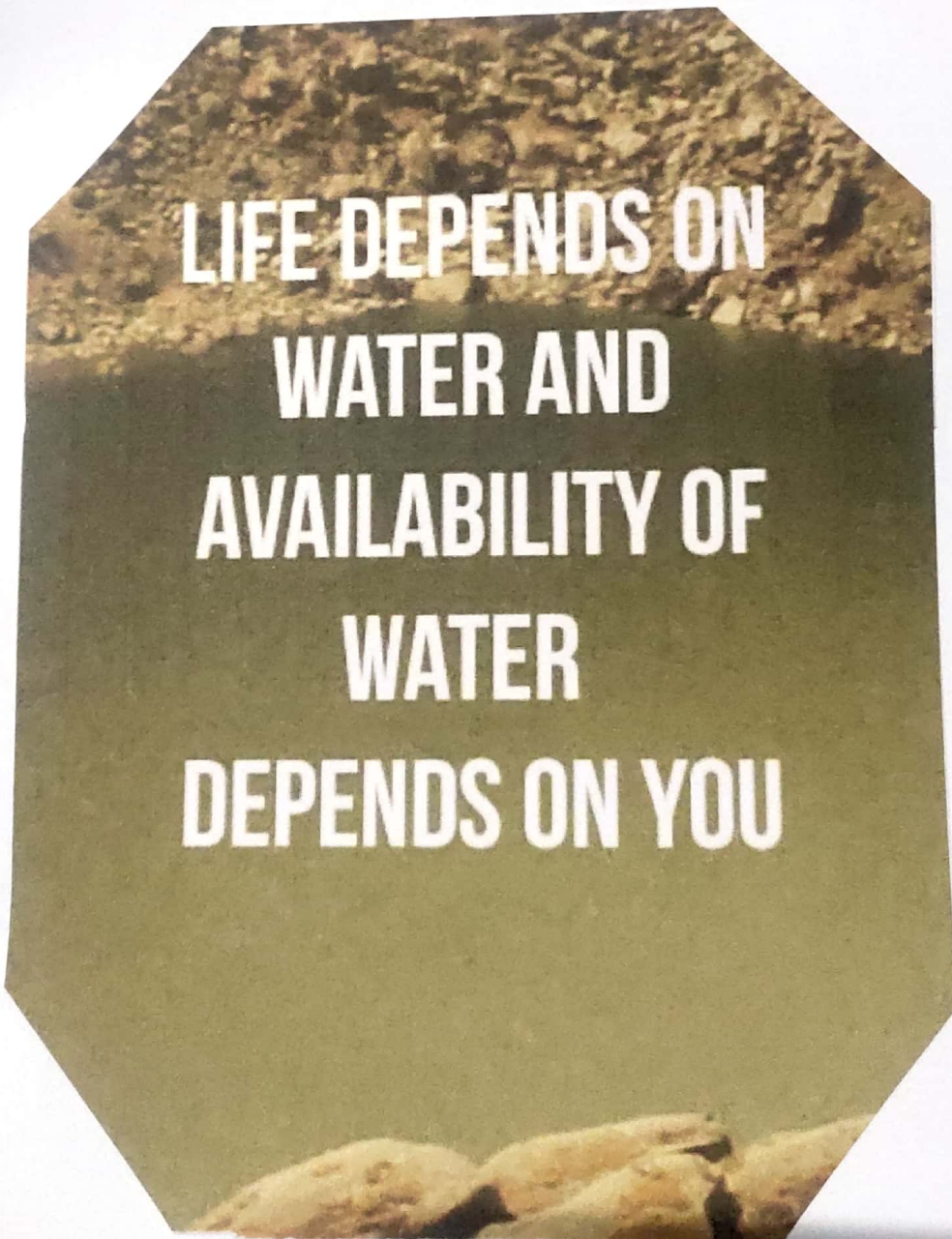
Advantages Of Rainwater Harvesting

The advantages of rainwater harvesting are as follows :-

- * Easy to maintain
- * Suitable for irrigation
- * Reduces demand on ground water
- * Supplemental in drought.
- * It is easy to install
- * Does not require a filtration system for landscape irrigation
- * It reduces soil erosion, stormwater runoff, flooding, and pollution of surface water with fertilizers, pesticides, metals and other sediments.
- * It is an excellent source of water for landscape irrigation with no chemicals and dissolved salts and free from all minerals.
- * It costs less.

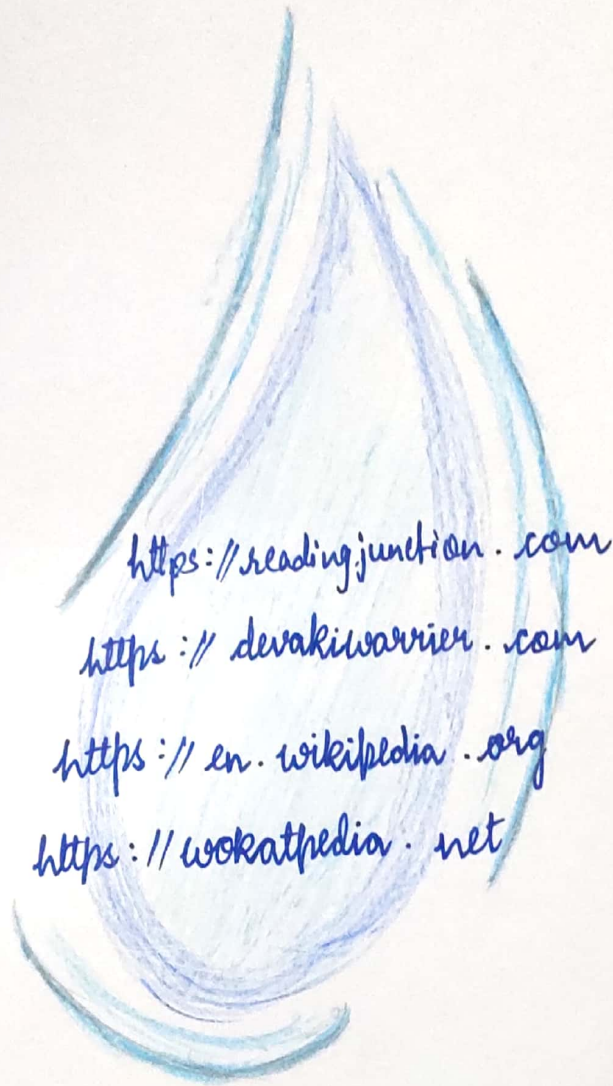
CONCLUSION

Rainwater harvesting is an eco-friendly technique to save water. It also increases the level of ground water. Effective use of this method helps us to save our Earth.



**LIFE DEPENDS ON
WATER AND
AVAILABILITY OF
WATER
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BIBLIOGRAPHY



Submitted to : Mrs. Snehal Mankoji

School name : Blooming Buds school

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