

# RAIN WATER HARVESTING

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## Introduction:

Water is essential to all life forms on earth - human, animal and vegetation. It is therefore important that adequate supplies of water be developed to sustain such life. Development of water supplies should, however, be undertaken in such a way as to preserve the hydrological balance and the biological functions of our ecosystems.

Consequently, the human endeavour in the development of water sources must be within the capacity of nature to replenish and to sustain. If this is not done, costly mistakes can occur with serious consequences. The application of innovative technologies and the improvement of indigenous ones should therefore include management of the water sources to ensure sustainability and to safeguard the sources against pollution.

As land pressure rises, cities are growing vertical and in countryside more forest areas are encroached and being used for agriculture. In India the small farmers depend on Monsoon where rainfall is from June to October and much of the precious water is soon lost as surface runoff. While irrigation may be the most obvious response to drought, it has proved costly and can only benefit a fortunate few. There is now increasing interest in the low cost alternative-generally referred to as 'Rain Water Harvesting' (RWH).

Water harvesting is the activity of direct collection of rainwater, which can be stored for direct use or can be recharged into the groundwater. Water harvesting is the collection of runoff for productive purposes.

Rain is the first form of water that we know in the hydrological cycle, hence is a primary source of water for us.

Rivers, lakes and groundwater are all secondary sources of water. In present times, we depend entirely on such secondary sources of water. In the process, it is forgotten that rain is the ultimate source that feeds all these secondary sources and remain ignorant of its value. Water harvesting is to understand the value of rain, and to make optimum use of rainwater at the place where it falls.

### **Benefits of Rainwater Harvesting:**

1. Environment friendly and easy approach for water requirements
2. RWH is the ideal solution for all water requirements.
3. Increase in ground water level.
4. Mitigates the effects of drought.
5. Reduces the runoff, which other wise flood storm water drains.
6. Reduces flooding of roads and low-lying areas.
7. Reduced soil erosion.
8. Improves the ground water quality.
9. Low cost and easy to maintain.
10. Reduces water and electricity bills.

### **Who can harvest rainwater? and where?**

- ☞ People planning construction of House, Modification of house, existing house, etc. from rooftops
- ☞ Govt. Buildings, Institutions, Hospitals, Hotels, Shopping malls etc. from rooftops and open areas
- ☞ Farmlands, Public Parks, Playground, etc.
- ☞ Paved and unpaved areas of a layout / city / town / village

### **Need for Rainwater Harvesting:**

1. As water is becoming scarce, it is the need of the day to attain self-sufficiency to fulfill the water needs.

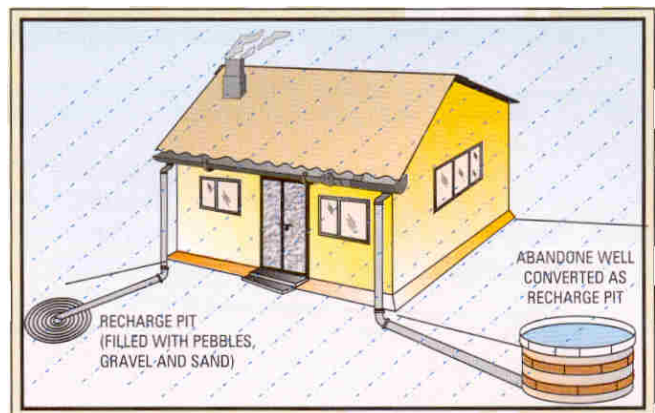
2. As urban water supply system is under tremendous pressure for supplying water to ever increasing population.
3. Groundwater is getting depleted and polluted.
4. Soil erosion resulting from the unchecked runoff.
5. Health hazards due to consumption of polluted water.

### Methods of Rainwater Harvesting:

- Rainwater stored for direct use in above ground or underground sumps / overhead tanks and used directly for flushing, gardening, washing etc. (Rainwater Harvesting)
- Recharged to ground through recharge pits, dug wells, bore wells, soak pits, recharge trenches, etc. (Ground water recharge)

### Rainwater Harvesting Potential:

In an area of 2,400 Sq.ft. or 223 Sq.mt. (40 ft. X 60 ft. site) around 2,23,000 liters of rainwater can be harvested (Annual rainfall in Bangalore is around 1000 mm / 39.4 inches). The amount of rainwater that can be harvested depends on the catchment area, rainfall in that area and collection efficiency etc.



*Take an eco-friendly measure save Water save Earth*  
**The Need of the Hour - RAINWATER HARVESTING**

Rainwater Harvesting[RWH] is the process of collecting and storing rainwater in a scientific and controlled manner for future use.

RWH is the collection of run-off water for secondary purposes.

RWH is a simple, technically feasible, economically affordable and an Environment friendly option.

- \* RWH reduces surface runoff, flooding and Soil erosion.
- \* Saves on water charges.
- \* Improves ground water table.
- \* Saves on electricity charges.



***Conserve, Reuse, Recycle WATER. Every drop counts.***

**Harvest Rainwater - you can make a difference for a better tomorrow.**

**Save Water Save Life.**

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