

## **Rain Water Harvesting Project:**

The area in which Phaltan Education Society's College of Engineering, Phaltan is situated suffers from drought conditions frequently. This region also faces the problems of low rainfall. Its average rainfall is only 311mm. The frequent conditions of scarcity of water compels for best management of available water. As a result, Rain Water Harvesting unit is established in the college.

Rain water is collected from building roof top is used for borewell water recharge. Water is reused for gardening purpose. Due to this rain water harvesting technique there has been a marginal improvement in ground water level in the campus.



Fig: Rain Water Harvesting system

Following are units involved in Rain Water Harvesting system.

1. Catchment Area ( Building Roof top )
2. Rain Water Gutter ( Pipe )
3. Filtration Unit

1. Catchment Area (Building Roof) – Area of rooftop of Block 1 is 2200 SqM. Amount of water that can be collected from roof top is 6 lakh liters per rainy season. Filtration unit is designed accordingly. Every rainy season nearly 1.5 lakh liter water recharge in to bore well.

2. Rain Water Gutter ( Pipe )- PVC pipes of 6" diameter are used to collect the rain water
3. Filtration Unit :

Filtration unit 11' X 10' X 6' consist layers of Boulders, aggregate, Grit and Sand separated by wire mesh at each layer.

- a) Hole for Recharge- Hole of 6mm diameter are made to bore well pipe at spacing 9" center to center upto 2 feet from level of PCC.
- b) Pit filled with boulder upto 2 feet, aggregate 1 feet, Grit 1 feet and large size of sand 1 feet. Wire mesh is laid after each layer to avoid mixing.
- c) Brick wall is constructed to protect and prevent the filter unit from surface rain water.

### **Photograph of Rain Water Harvesting Construction:**



Fig. 1: Rain Water Harvesting Filtration Unit Ditch



Fig. 2: Recharge holes to bore well Pipe



Fig.3: Meshing to recharge holes of bore well pipe



Fig4: Placing layer of filter bed



Fig.5: Principal sir observing construction of brick side wall