

Atal Bhujal Yojana

Guidelines for recording Rainfall data using Ordinary/Manual Rain Gauge

1. Why do we need Rainfall data?

Accurate and precise rainfall data is one of the very important parameters in preparation of Water Security Plans in Atal Bhujal Yojana. The rainfall data helps in the estimation of Water Availability, which gives an account of the status of Water Resources in each Gram Panchayat. At the same time, the rainfall data helps in arriving at runoff and planning supply side interventions. Rainfall is the major source of water for irrigation and hence quantitative assessment of rainfall helps in planning the crops. Maintaining a regular data /record of rainfall will also help in the year-on-year updating of Water Security Plans.

2. Equipment used for Rainfall Measurement:

There are various types of equipment's used to measure the rainfall ranging from Ordinary manual type to sensor based automatic measuring devices, generally known as rain gauge. The rain gauge basically collects water falling on it and records the change over time in the **rainfall** depth, which is usually expressed in millimetre (mm). I

Recognizing the importance of rainfall data for water budgeting and limited availability of data of rainfall at the level of Gram panchayat, provision has been made under Atal Bhujal Yojana to install Ordinary / manual rain gauge at each Gram Panchayat. Accordingly, budgetary provisions have been made under Atal Bhujal Yojana for procurement of the ordinary/Manual Rain gauge to be installed in each Gram panchayat.

The ordinary / manual rain gauge is simple to operate as well as the measurements can be taken after a preliminary training. It consists of a circular collecting area, which is connected to a funnel. The funnel discharges the rainfall into a receiving vessel/measuring cylinder, which is graduated in mm of rainfall. Both the funnel and the receiving vessel are housed in a metallic container. Whole instrument is fixed vertically to a masonry foundation, such that the rim of the funnel remains at least 305 mm above the ground.

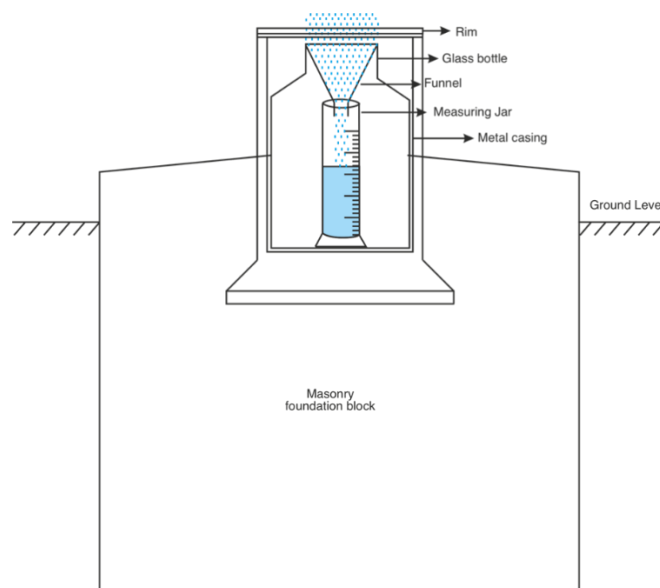


Diagram of a Manual Rain Gauge



Photograph of Manual Rain Gauge

3. Important Considerations while installation of a Rain Gauge:

1. Ground must be level and the instrument should be present in a horizontal catch surface. The grass and vegetation around it should not be allowed to grow more than a few centimetres high.
2. The gauge must be set very near to the ground so as to minimise the wind effects, but must be sufficiently high so as to prevent splashing, flooding etc. of the instrument.
3. The instrument must be surrounded by an open fence area of at least 5.5 X 5.5 m so that readings are not disturbed by any animals or vehicles etc.
4. The rain gauge should be securely fastened so that it does not blow over in strong storms, when high rainfall totals are of particular interest!
5. Gauges sited near buildings, solid fences and trees can have serious errors in rainfall totals. The distance of the gauge from buildings, trees or other objects should be at least twice the height of the obstruction, and preferably four times the height. For instance, the gauge should be more than 10 metres from a house 5 metres high and more than 30 metres from the nearest branches of a tree 15 metres high.

4. Time and Frequency of Measurement:

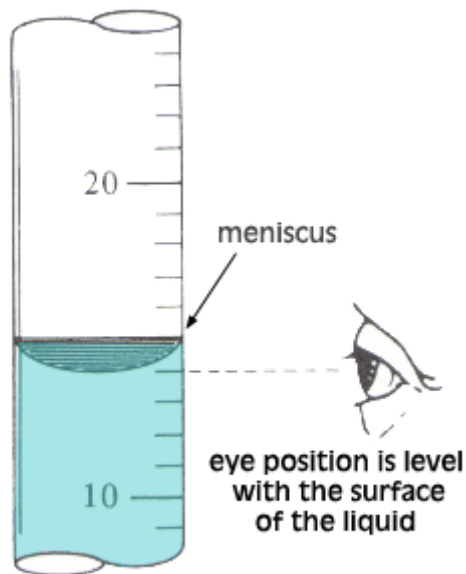
The readings from the rain gauge have to be taken between 8-9 am on a daily basis during the rainy season and during non-rainy season, the readings have to be taken on the days when there is rainfall in the area. A separate register has to be maintained by the person, who is responsible for taking the readings of the rain gauge. Ideally, a local person in the village shall be identified for taking the measurements on regular basis. Whenever the Field level functionaries of DIPs are visiting the GP, all these readings in respect of rainfall is to be transferred / updated in the mobile application as well. The same shall be re-verified on a random basis, by the concerned DPMU officials for validation of data being recorded.

5. Making a rainfall observation:

To read the contents of the rain gauge, first ensure that the gauge is vertical. Bring the eye level with the surface of the liquid in the gauge and read from the scale the position of the liquid surface. Make sure you read the bottom of the liquid surface and not the meniscus,

which is the slightly higher lip formed where the water surface meets the cylinder wall. If the surface of the water is midway between two divisions, read the higher division.

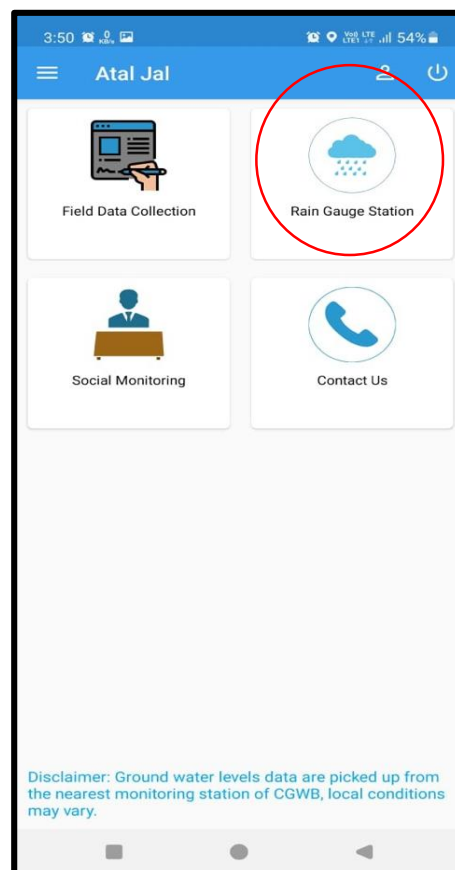
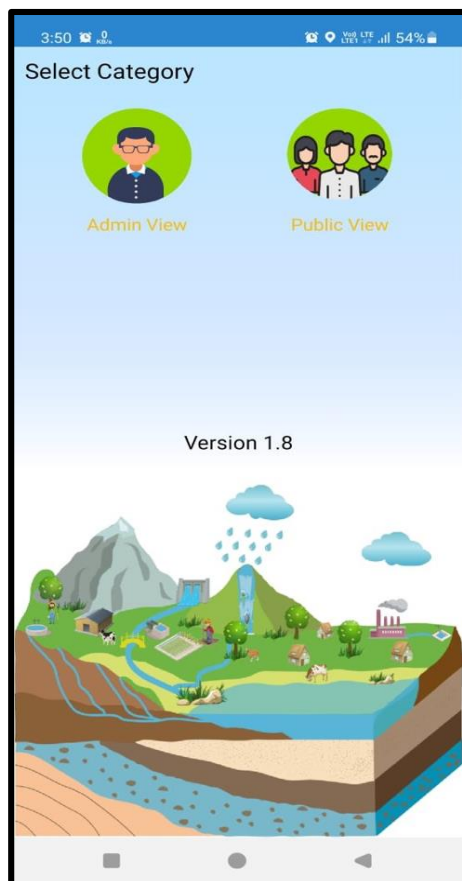
Graduated cylinder



(The unit of measurement is milliliter)

6. Uploading the Rainfall Data in the Atal Jal Mobile App:

1. Open **Atal Jal mobile app**.
2. Click on **Admin view > Rain Gauge Station**



3. Click on **Add/Edit** to add or update the data. (Add- For adding new Site, Edit- To update the data for previously saved site)
4. Fill all the fields appropriately, upload the required images and click on **SAVE**.

