

Background

Vegetation protects the soil from the action of wind and water. It prevents soil from being blown away by the wind or washed away by water. It also slows down runoff, allowing water extra time to soak into the soil. Soil erosion has also been recognised as one of the factors contributing to desertification. In addition human activities like deforestation, over grazing, forest fires, and salinisation of soils due to excessive use of fertilisers and over irrigation are contributing to desertification. 25 per cent of the total land area in India is today threatened by desertification. Desertification, a potential and severe consequence of land degradation in arid, semi-arid and dry sub-humid regions receiving low rainfall, can have severe ecological and social repercussions.

Methodology

- Take two plastic boxes or trays approximately 90cm x 50cm x 15cm.
- Line them with a plastic sheet to make them leak proof.
- At one end of each box make a 'V' notch and fill the trays with soil.
- Sow the selected seeds in one of the boxes.
- Sprinkle equal quantity of water, with a mug or sprinkler to both the trays every day .
- Allow seedlings in one of the trays to grow for a week by which time they will attain a height of about 6 to 8 cm.
- Place both the trays at a certain height on a table or a platform in a slanting position with the help of bricks as shown in the picture.
- Place jars beneath the notch, as shown in the picture.
- Pour equal quantity of water on the trays.
- After an hour measure the quantity of water collected in the jar. Also, measure the quantity of soil collected in the jar. Note down the differences between the water collected in the two jars.
- You will notice that the jar beneath the tray without vegetation has more soil and vice versa for the jar beneath the soil with vegetation.
- This is because the vegetation in the tray has bound soil particles together and allowed less soil to be eroded away with the water.

Objective

To demonstrate the importance of vegetation in preventing soil erosion.

Place

Indoor/ Outdoor

Duration

8 - 10 days for growing the vegetation cover and 2 hours for the activity

Group size

Individual/ group

Suitable time

Anytime

Materials

2 rectangular trays, fast growing seeds (ragi, methi, mustard), soil, mug/ water sprinkler, bucket, labels, notebook, pen/ pencil

Curricular Linkages

Subject

Science and Social Science

Concept

Water and soil conservation, soil erosion

