



# Green Schools Network

## ACTIVITY SHEET

July 2011

### Why talk about Rainwater Harvesting?



Because scarcity of clean water is increasing. The government continues to announce new and expensive plans to conserve water but these projects are rarely implemented. It is high time something constructive is done about these problems. Since government agencies alone can't be expected to reach their targets for water conservation and amount of water available per person is constantly reducing, it is time we deal with water scarcity on our own! We can't hope to increase availability and accessibility of water without making a change at an individual level.

Name.....

School Name .....

Class..... Date .....

### Gobar Gyan

The best possible solution for dealing with water scarcity is rainwater harvesting. This is because the most common source of water is rain. Rain is decentralized and you can make the supply of rainwater decentralised too. Rainwater harvesting isn't a new invention. The basic principle for harvesting rainwater successfully is simply catching water where it falls and when it falls. For this reason, it was practiced even in ancient India for water management!



Rainwater harvesting was and continues to be the best way to solve the problem of water scarcity because it is economical, manageable and can be practiced easily.

According to WHO, one out of every three people all over the world don't have access to sufficient water for their basic needs. This situation is getting worse with population growth and increases in domestic as well as industrial use of water. A quarter of the world's population (more than 1.5 billion people) lives in developing countries where, in spite of availability of water, water from rivers and aquifers is not accessible.

Countries like India, where most people are dependent on rainwater and groundwater for water supply, are facing serious problems because of this. Did you know that 60 per cent of agricultural area in India is dependent on rainwater?

#### What is rainwater harvesting?

It is capturing rain where it falls or capturing the run off in your own village or town; and taking measures to keep that water clean. In general, water harvesting is the activity of direct collection of rainwater. The rainwater collected can be stored for direct use or can be recharged into the groundwater.

#### Activity — 1

Here's a political map of India. Mark the regions that have very high, low and very low rainfall.



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### GOBAR GYAN:

What are the benefits of rainwater harvesting?

**Reducing scarcity of water:** Rainwater harvesting is the best solution to deal with this problem, as it is economical, easy and provides clean and safe water.

**Recharging the groundwater table:** Groundwater recharge is becoming even more difficult as concrete jungles are increasing. Rainwater harvesting helps recharge the depleting groundwater table.

**Agricultural benefits:** Water scarcity is also causing problems in agriculture, where wastewater is being used to irrigate plants. Rainwater harvesting increases availability of clean water for agriculture. In areas with a lot of rainfall (like Meghalaya), excess surface runoff causes depletion of the topmost layer of soil and causes soil erosion. If this water is collected instead, soil will be more fertile and soil erosion will be prevented.

**Reducing discharge:** It also helps in reducing storm water discharges, urban floods and overloading of sewage treatment plants. It can also be used to reduce ingress of seawater in coastal areas.

### ACTIVITY-2

Refer to the map that you marked earlier and try to answer the following questions:

**In which regions is rainfall scarce?**

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**Which regions have heavy rainfall?**

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**What problems could people in areas having low rainfall and high rainfall face?**

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**Do you think that water harvesting can solve these problems? Why/why not?**

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**How is rainwater harvesting useful?**

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**Why do you think we need to recharge the groundwater table?**

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### GOBAR GYAN

- What are different ways to harvest rainwater?
- Rainwater can be harvested through a variety of ways, which include:
- Capturing runoff from rooftops
- Capturing runoff from local catchments
- Capturing floodwater from local streams
- Conserving water through watershed management

### ACTIVITY-3

Did you know that Indians have been practicing rainwater harvesting since ancient times? In different parts of India, rainwater harvesting is still being practiced using traditional methods. Can you name some traditional methods of water conservation practiced in India. Refer to your textbooks or the Internet and find out about 5 traditional methods to carry out rainwater harvesting, and write about them in the space given below. Also try to collect pictures of these, and make a collage for your school bulletin board.

Rainwater harvesting method	How old is it?	How was it used?	Where is it practiced?
Baolis (stepwells)	The first baolis were made in the 600 AD	was used to access It groundwater and to store rainwater	Delhi, Gujarat and Rajasthan



### GOBAR GYAN: A case study on Chennai

#### ACTIVITY – 4

In the late 1980s, Chennai faced a serious water supply crisis due to failed monsoons, exploding demands and saltwater intrusion from the sea. Another drought happened in 1993, after which the Chennai Metrowater proposed to Chennai Metropolitan Department Authority that provision of rainwater harvesting should form a necessary part of building plans before they are submitted for approval. The request was accepted in 1994 and was implemented. As a result, Kuil Thottam, a slum settlement in Chennai is meeting a substantial part of its water requirements simply through rainwater harvesting.

All of this had been possible only because the community participated in implementing legislations for restricting groundwater extraction and installing rainwater harvesting and groundwater recharging structures. After reading about the case study on Chennai, try to answer the following questions:

1. What caused the water shortage?  
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2. How do you think water shortages be dealt with?  
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3. Do you think that legislations are sufficient for water conservation? Why/Why not?  
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4. What opinion did you form about the Chennai water supply crisis and how it was dealt with?  
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5. Do you think the water shortage would have happened at all if the measures taken by the government had been implemented earlier? Why/Why not?  
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\_\_\_\_\_



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