

In the regions where good groundwater aquifers were available, wells were dug with innovative methods to lift the water. Deep wells were dug in the beds of tanks and rivers, both to serve as a source of good water when the water receded and also to recharge the groundwater when they were fully submerged.

Almost following above described regional pattern, we would here mention few water harvesting techniques employed in various parts of India.

## North East India

### Bamboo Pipes

In this simple method, water is transported through bamboo pipes for irrigation. Bamboo pipes are used to divert water of springs on the hilltops to the lower regions by gravity. Bamboos of varying diameters are used for laying the channels. In Meghalaya they do it for black pepper cultivation. In Ri Bhoi district of Meghalaya, few villages collect flowing stream water through bamboo pads for domestic use.

### Apatani

The water harvesting system is called *Apatani* because the Apatani tribes of the lower Subansiri district of Arunachal Pradesh practice it. *Apatani* is a wet rice cultivation cum fish farming system practiced in elevated hilly regions and gentle sloping valleys of Northeast India. *Apatani* can tap the water of small streams and springs in these high rainfall hilly regions through their temporary walls. These walls act as barriers and can divert the flow of water towards terraced and valley lands. In old days when most of the waste in villages was biodegradable organic waste, such harvested water from the hilltops used to get mixed with such domestic waste as it passed through the village through small channels. The mix formed as a result was considered good for paddy cultivation.

### Zabo

The Zabo literally means 'impounding run-off'. It is an ingenious method of catching rainwater from running off the mountains. This system is practiced in Nagaland. Like other traditional water harvesting methods in hills, Zabo also combines water conservation with forestry, agriculture and animal care and promotes soil management, environmental protection and sustainable water management.

### Cheo-ozih

Angami tribe of Nagaland practices this system. In this system, a long channel carries the river water. From this channel many branches take off, and water is often diverted to the terraces through bamboo pipes. The channel is called Cheo-ozih. Ozih means water and Cheo was the person responsible for the laying of this 8-10 km long channel with its numerous branches. The channels are maintained and cleared each year by the local community.

### Dongs or Ponds

*Dongs* are ponds constructed by the Bodo tribes of Assam in Brahmaputra valley to harvest water for irrigation. Water was lifted from the ponds and distributed into the fields by an instrument called *lahoni*. The ponds were individually owned and there was no community involvement for digging and maintenance.

### Garh and Dara

These are also rainwater-harvesting techniques practiced in Assam from the ancient time. A *Garh* is built to channelise river water to the agricultural field. A *Garh* is like a big *nala*, where both sides of the *nala* have big and long embankment and the middle side is left open to water flow. In the paddy field, the whole area is divided into small pieces in square size, creating small embankments, called *Dara*, where rain water is stored for cultivation.

### Indo-Gangetic Plains

Indo-Gangetic plain is full of rivers and their floodwaters. It stretches from Haryana-Punjab in west to West Bengal in the east. Few important water harvesting systems in this region are mentioned below:

### Ahar-pyne

It is a traditional floodwater harvesting system prevalent in Bihar. Ideal terrain for *Ahar-pyne* should have an evident slope, sandy soil, low groundwater level and flood during monsoon. The slope is an average of one meter per km from south to north. In combination, these factors make floodwater harvesting a best-suited option.

The *Ahar-pyne* system received a deathblow under the nineteenth-century British colonial regime.