

Rivers, floodplains, cities and farmers



Floodplains of rivers can provide a new source of water. They are a local, non-polluting, perennial and non-invasive source of water for urban centres.

Delhi Jal Board did ground-breaking efforts on extracting water from Yamuna's floodplains in an environmentally sustainable manner.

The **Palla floodplain scheme** which was launched by the Delhi Jal Board in 2016 (on a 25 km stretch of the Yamuna) is currently running at half its potential and providing water to about one million people in the city — of a daily requirement of 150 litres per person.

Harvesting water from floodplains is a source of water for urban regions across the country and can be used as a regular and a contingency water reserve.

What are floodplains?

Floodplain is an area of low-lying ground adjacent to a river, formed mainly of flooding of rivers and deposition of sand sediments on the riverbanks.

These sandy floodplains are exceptional aquifers where any withdrawal is compensated by gravity flow from a large surrounding area.

Some floodplains such as those of Himalayan Rivers contain up to 20 times more water than the virgin flow in rivers in a year.

Since recharge is by rainfall and during late floods, the water quality is good.

What is 'conserve and use' principle?

The water needs of Delhi get fulfilled by water from other river basins located as far as 300 kilometres away. So harvesting water from floodplains will satisfy water needs of cities.

Water can be drawn and provided to meet the needs of cities by developing a grid of several wells.

Floodplains absorb the rain water and saturates during floods late in the monsoon. Flooding can cause rise in the water level which allows us to extract water.

For that we need to conserve and use the floodplain to make it a self-sustaining aquifer wherein every year, the river and floodplain are preserved in the same healthy condition as the year before.

The 'conserve and use' principle demands that no more than is recharged by rain and floods each year can be withdrawn from this aquifer.

This ensures that the groundwater level in the floodplains remains steadily above that in the river in the lean non-monsoon months when the river is often polluted.

Drawing out any more water than is recharged can contaminate and eventually finish off this precious resource.

What are the threats to Indian rivers?

Construction of large dams and physical alterations of river flow by straightening and deepening of river course will disrupt the natural flooding cycles, reduces flows, and drains wetlands.

Rivers today are facing problems of abysmally low flows due to an indiscriminate extraction of water for use in cities, industries and agriculture.

They are also highly polluted because sewage and effluents are being released into them.

But a floodplains 'conserve and use' scheme, which is a socio-economic-environmental scheme, can provide water to urban centres along rivers; it can also engage farmers by providing them an assured income and restore rivers to a healthy condition.

Preserving the floodplain

Preserving the floodplain in its entirety is critical. This can be done by engaging farmers whose land will have to be leased for such an effort.

Farmers can be engaged through a public-private partnership, where farmers on this land tract of 1 km on either side of the river can be provided an assured and steady income.

In addition, farmers can grow a food forest, fruit orchards or nut trees but not water-intensive crops on this land.

Ecologically, a water sanctuary would prevent erosion, heal the river ecosystem, and restore the ecological balance in floodplains.

'Conserve and use' approach would help curb illegal extraction of water, stop pollution by local agencies and industries and also encourage cities to be more responsible in their waste management.

What are the measures needed to protect our rivers?

- We need to ensure rivers continue to flow free.
- Revitalize river health through floodplain restoration.
- Help communities use water wisely.
- Safeguard rivers from the harmful impacts of mining and industrial effluents.
- All natural resources and sources of water – mountains, lakes, rivers, floodplains, forests, and hills must be declared as inviolate.
- Huge penalty should be charged for destruction of these resources
- Augment water by planting more forests.

- Water consumption – whether in cities, industries or for agriculture – must be strictly regulated.
- We need to move to a more sustainable way of living.

Conclusion

‘Conserve and use’ scheme will help improve the quality of rivers, quality of life for citizens, and at the same time guarantee farmers a healthy fixed income. This is a new scheme of living.