

Potable drinking water access for tribal village by installing slow sand filter system

WaterAid India (WAI) along with partner, National Institute of Women, Child and Youth Development (NIWCYD) is currently working in 52 villages in Dindori District of Madhya Pradesh to ensure sustained access to safe drinking water.

Under the Water, Sanitation and Hygiene (WASH) programme launched by WaterAid India, the key objective is to improve the standard of living of the tribal families residing in these 52 villages, together known as Baiga Chak.



Baiga Chak is an area inhabited by Baigas, a vulnerable tribal group. Following a simple lifestyle, Baigas live in small villages, on the edge of the forest belt. However, access to clean water and decent toilets in these confined settlements is an urgent need, given the high incidence of water-related illnesses.

Falling under the 52 village cluster, Village Kapoti is home to 45 Baiga families (Particularly Vulnerable Tribal Group), 7 families belonging to the Gond tribe and 1 Yadav (other backward class). In this forest village, the elderly residents remember the time when there was plenty of water in forest streams and variety of food sources that enriched their culinary diversity. The situation has undergone drastic change in last three decades. The natural water resources and forest bio diversity has been adversely impacted due to the depletion of forest streams and subsequently water tables in the habitat areas. The current situation is an indicator of changing climatic conditions in the region. Moreover, disappearance of a number of forest species has added to the intensity of the situation.

As a result of the changes in the geo climatic conditions in the area, a significant number of traditional and natural water resources have either partially or fully dried out. What happened in Kapoti is nothing but an obvious example of water scarcity due to the slow death of natural water bodies and once perennial forest streams.



The problem faced by villagers in Kapoti: Water scarcity was the biggest challenge faced by people in the village since past three decades. The severity of the problem increased with each passing year because of the depletion in the water flow of forest streams. When they found their traditional water sources drying up, people had to walk long distances in the forest to find new water sources. The women and adolescent girls especially had to bear the maximum burden of fetching water from far off distances in both peak summer and winter seasons. This single activity not only took their valuable time but also increased their drudgery and physical pain, often forcing their school going girl children to either give away time required for education or dropping off from school altogether.

During monsoon, as all the contaminants from ground (often containing human and animal faeces as the area is still not free from open defecation) flow into the nearby water body, people not only suffer from water-borne diseases like diarrhoea, cholera and typhoid, they may also lose their life due to lack of access to medical care in these confined settlements. Owing to these issues, WaterAid India along with partner NIWCYD, has been working in the region to provide drinking water security to one of the most marginalised population in this country.

In 2018, the team took up the decision to develop a slow sand filter tank for water purification in the Kapoti village for providing clean water. The filter tank was connected to stand posts erected in front of all 53 households in the village.



The process of developing slow sand filter tank: With the support of community members, the team of NIWCYD started the activity by building a square-shaped mini pond like structure at the source of the stream up in the forest hill.

Then the water from the square structure was connected with the filter tank by laying a pipeline. This system works on the simple principle of gravity. Water from this square-shaped mini pond is directed into a three-chambered distribution tank where it is filtered.



In two filter chambers, net has been fixed. Above this net, there is one layer of big sized boulders, one layer of small round shaped boulders and finally at the top, there is a layer of sand.



The water from the stream thus passes through all these layers and is filtered using the principle of slow sand filtration with layers of sand, gravel and pebbles. Finally, the filtered water is stored in a tank with a capacity of 9,600 liters post which the water is supplied to individual stand posts placed in front of every household in the community.

Impact: As a result of this simple intervention, people in Kapoti village today (56 households) are able to access potable drinking water easily on their premises.



The intervention has also become an attraction to various agencies including district administration who are now thinking of replicating the idea in other areas where people are facing severe drinking water crisis.