

## JalTARA Filter: A Step Towards Clean Drinking Water



In Sonbhadra district, the availability of clean drinking water has become a big challenge over the recent years. This is largely due to mining activities in the area that directly impact the quality of groundwater as well as surface water bodies. The problem is dire in the remote villages where people do not have access to safe drinking water. They consume water from open sources like rivers, canals and pits formed near the mountains. These water bodies are not safe as per the water tests conducted by TARAlife Sustainable Solution (TLSS) a unit of Development Alternatives Groups. The water contains high levels of fluoride which is not safe for consumption and may cause dental fluorosis, skeletal fluorosis, arthritis, bone damage, osteoporosis, muscular damage, fatigue, joint-related problems, and other chronic health problems. Adding to the crisis the water collection points accessed by the community are now drying up because of the lower ground water level and less rainfall in the recent years.

The organisation has identified the areas where the problem is comparatively severe and has installed JalTARA filters. These JalTARA filters are customised based on the water contamination variations. Fluoride Removal Filters are designed to absorb and reduce the fluoride content in water. Fluoride is a naturally occurring mineral found in many water sources, while it is generally considered safe and effective in small quantities, but in Sonbhadra, the level of fluoride is much higher, which makes the water unsafe for consumption without proper filtration. The Fluoride Removal Water Filters use various methods to reduce the fluoride concentration, such as activated alumina or reverse osmosis. Two such filters are installed in Gidhia and Chanchikhurd villages of Kone block, and one in Kota village in Chopan block.

Each of these filters has one output water tank and one input water tank with 2000 Litre capacity each and three separate filters that filter and add required mineral during filtration process. It must be noted that the filters run through solar operated motors. The total capacity of each unit is to filter 500 Liters of water per hour which can fulfil the requirement of more than 100 families per day.

The input water tank is filled up with the help of a borewell, then with the help of another motor the water goes through filtration process in the unit of three filters which reduces the water contaminations, and the potable water gets collected into the output tank. This output tank is further connected to two output taps.

These filters are handed over to community members and are operated through '**Locally Owned Community Operated Model** (LOCO model)'. Awareness on Community engagement was also an integrated part of the process.

Other major steps taken by the team to set up these fluoride removal water filters in villages are as follows:

- Need identification
- Place identification
- Finalising the place for installation
- Legal documentation of land and its use
- Water testing
- Customisation of water filters
- Construction and Installation
- Handing-over to the community for operation, usage, and maintenance.

To operate and manage LOCO models, Development Alternatives has formed Jal Samitis for each LOCO model. The members of Jal samitis are from the community itself. Three Jal Samitis were formed, and they hold regular capacity building sessions to build their knowledge on LOCO model and proper functioning of JalTARA filters. A Jal samiti is a group of 10 members each and consist of male and female members. Each Samitis has a President (Adhyaksh) and a Secretary (Sachiv) who were elected by the members of samiti in the initial meetings. They both have the responsibility to look after the filters and maintain records for collection, repairing, and rotation of responsibilities etc. Few of the members of Samiti also went for an exposure visit to Orchha in the previous quarter to see how water LOCO models were operated by other Jal Samitis. They were also oriented on the documentation of meetings, process and recordkeeping of fees collected from community members, if any. It was seen that Jal Samitis have built ownership of LOCO models.