

## NEERI - ZAR : Portable Instant Water Filter

'NEERI-ZAR' is the water purification system suitable for potable water supply particularly under emergency situation with a wide range of flood water quality. The NEERI-ZAR meet drinking and cooking water requirements on emergency basis and serve as a disaster management tool for drinking water supply under flood affected situations. A typical unit, with two 100 L vessels, can serve about 20-30 persons, when operated for 10 hours a day, on the basis of 6-10 litres per capita/day for drinking and cooking purposes.



Typical unit comprises two plastic containers placed at elevation difference to manage gravity flow. The top container contains raw water. The given oxidizing chemical solution is added into the raw water container. The water flows by gravity into the second plastic container with a fixture and sand filter. The filtered water from the tap is collected in the third container. The given disinfectant solution, is added to this treated water container, once treated water starts accumulating in the container. The container is allowed to fill up to the capacity. Safe potable water is ready for use after half an hour. The filter needs periodical cleaning. The typical capacity of the unit is 20-30 L/hr. of treated water.

## **IPR Status**

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## **Innovator**

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## **Salient Features**

- NEERI-ZAR brings down the turbidity of filtered water to less than 3 NTU from raw water in the range 100-300 NTU.
- Simple to fabricate
- Easy to operate
- Minimum maintenance
- Light weight
- Ease in transportation and installation
- Most Reliable for emergency water supply
- Gravity operated
- No power requirement
- Typical Capacity - 20 L/h.
- Produces potable water within few hours
- Unit can be assembled using locally available material
- Treatment without electric power supply
- Operating cost Rs. 3 per 100 litre
- Removes turbidity, organic matter and bacterial contamination
- No change in dissolved salts in the water
- Can be used as a domestic iron removal unit

## **Awards / Recognition**

## Field installations



NEERI has installed 100 units in the flood affected remote areas of Barmer District in October 2006 to convert the turbid and contaminated rainwater into potable water



NEERI has installed 400 units in Aila Cyclone affected villages of Sundarban district (West Bengal) in 2009 to treat pond water



## Technology Licensee