

**NIMBKAR AGRICULTURAL RESEARCH INSTITUTE  
(NARI)**

***SOLAR WATER  
PURIFIER***



YouTube video



Phaltan, 05/2015

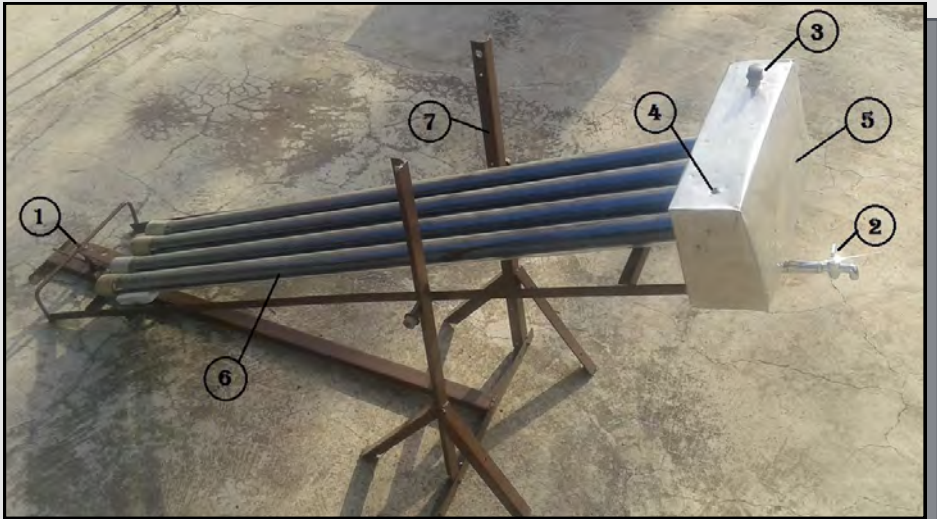


Water is an essential resource for sustenance and development of life. An inadequate water supply and sanitation facilities supposes a great risk for human health.

There are several treatment methods for water disinfection that are proved to be effective, such as chlorination, ozonisation, reverse osmosis or UV disinfection, but its application is not affordable in developing communities. Boiling water is the oldest and simplest method to remove its contaminants but it's a waste of energy.

Nimbkar Agricultural Research Institute (NARI), Phaltan, a non-profit NGO working in the field of Renewable Energy and Rural Development, has developed a simple water purification technique. Water filtered with four layered cotton *sari* cloth and heated (at 45°C for 3 hrs or 60°C for 15 mins) in an evacuated tubular collectors ensures you fully clean water! Even on cloudy day, NARI's Solar Water Sterilizer reaches peak temperature up to 45°C and above.

Solar Water Sterilizer is a reliable technique of clean drinking water, instead of the cry of world, solar energy is not reliable!



- |                   |                             |
|-------------------|-----------------------------|
| 1. Locking system | 5. Manifold                 |
| 2. Outlet valve   | 6. Solar tubular collectors |
| 3. Inlet port     | 7. Tilting frame            |
| 4. Air vent       |                             |

### ***Specifications:***

- Capacity of system = 14.98 L per day
- Number of solar tubes = 4
- Volume of each tube = 2.7 L
- Volume of manifold = 4.18 L

Even on cloudy days, water temperature of 45°C is reached for 3 hours.

# How to use the water purifier?

## Water filling:



**Step 1:** Before you start filling water into the system, make sure system is locked (1), so as to avoid tilting of frame.



**Step 2:** Make sure outlet valve (2) is closed before filling water.



**Step 3:** Open the cap of inlet port (3). (Always make sure that air vent (4) should not be capped/ it should be always open)



**Step 4:** Insert funnel in the inlet port.

## Contd..



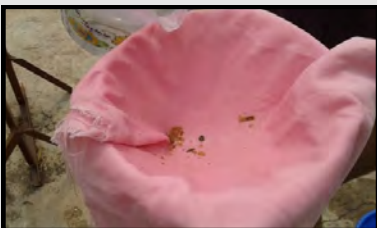
**Step 5:** Fold a cotton cloth into four layers and place it onto funnel for filtration.



**Step 6:** Start filling water through four layered cotton cloth filter to its full capacity.



**Step 7:** Close the cap of inlet port (3) of manifold, after filling water.



**Step 8:** Wash the cotton filter cloth with detergent daily.

# Taking out clean water

*The water gets cleaned by 3:30 pm when the maximum temperature is reached. It will be hot and so the relatively cool water can be taken out at 6 pm.*



**Step 1:** Unlock the frame, by pressing the trigger (as shown), so as to lift the system.



**Step 2:** Place a clean can or container under the outlet valve, to collect the sterilized clean drinking water.



**Step 3:** Open the tap of outlet valve to start the flow.



## Contd..



**Step 4:** Tilt the system until the water drains out in can or container.



**Step 5:** After taking out water from the system, gently put the system down and put lock to the frame (as shown).



**Step 6:** Your clean drinking water is ready for use. Store water in earthen pots or in refrigerator to cool down.



## Don'ts



- Do not close the air vent.



- Do not throw or let anything fall on the collector tubes as it could break them.

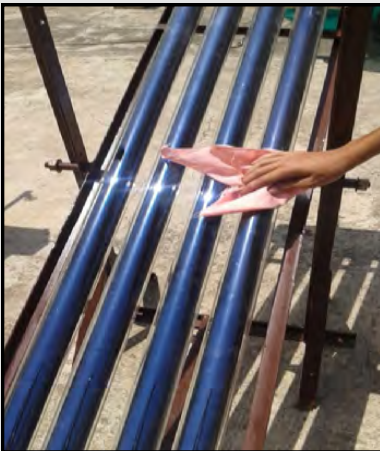






- Do not let the shadow fall on collector tubes.

## Maintenance



- Clean collector tubes regularly and whenever necessary to remove dust particles accumulated on the tubes.



- Clean the cloth daily after using.

*For further enquires please contact:*

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