

MAKE WATER FROM AIR

MEHER BHANDARA

Providing a Localized, Sustainable Source of Water



It's not unusual to see women and girls in rural areas of India and in other parts of the world walking miles to collect water from the nearest source and carrying back huge pots on their heads. This repetitive task leads to a waste of time and energy, limits the girl child from attending school regularly and prevents women from being more productive.

Water is a human right. And yet in many parts of the world we see thousands of people without access to safe and clean water, due to water scarcity, salinity, stress or water contamination.

Much of the world is covered with water in the form of oceans, seas, lakes and rivers. 97% of the earth's water is saltwater and of the remaining 3% freshwater only 1% is available for drinking, the rest being frozen in polar ice caps. In many countries, ground water withdrawal is 25% higher than its replenishment rate. In addition, surface and ground water pollution has become a major issue resulting in serious concerns about the future availability and quality of fresh water sources

*Today, 1 in 4 people – 2 billion people around the world lack safe drinking water.

**207 million people spend over 30 minutes per round trip to collect water from an improved source.

According to the United Nations, in some areas of the world, a child under 16 dies every eight seconds from drinking contaminated water and shockingly, three million people die each year from water related diseases.

We take water for granted. It comes out from the tap when we need it, but what about the millions who do not? Or those who do not have access to safe water?



Jalimudi - the first village in the world to provide water from air.

Bringing New Technology to the World - Water from Air

One possible solution that is contributing towards solving the problem is extracting water from the atmosphere, so that no local water source is required.

In 2004, my family came across this unique technology and realising its many benefits, established WaterMaker (India) Pvt Ltd in Mumbai to design and manufacture atmospheric water generators (AWGs) which could be used in several parts of the world where safe and clean drinking water was unavailable or in short supply. WaterMaker India is a part of the 121-year-old Jeena & Company, owned by the well-known Katgara Group.



In 2009, we zeroed in on Jalimudi village in Andhra Pradesh, India to provide 1000 litres of clean drinking water from air to over 600 villagers as our first social responsibility project. Jalimudi had 3 tap connections, one polluted well and the river Godavari far away. This was their main source of water. “When I first visited the village, I saw women and children spending hours collecting water from the sand bank in little cups and filling huge pots. This is when we decided to make Jalimudi the world’s first village to provide water from air to its inhabitants”, says Meher Bhandara, Director.

In cooperation with the local government, land was allocated, infrastructure built, power connection given and the Air Water Station was set up in record time. At the inauguration, an old woman came up to thank me saying “You have given us water from the Gods!”

In 2015, our second Air Water Station was set up in Gandhigram village, Gujarat in cooperation with the local water board to provide 2000 litres of drinking water to around 800 villagers.

Besides the rural areas, WaterMakers have been installed all over India, at ports, schools, factories, individual homes, communal centres, health clinics, naval hospitals and more, over the years. They are being exported worldwide too.

How does the WaterMaker work?

The atmosphere contains an estimated three million trillion gallons of moisture. This is now being tapped to produce water from air with the use of atmospheric water generators (AWG) which produce healthy, safe, purified drinking water from atmospheric air. They capture water vapour from air by optimising dehumidification techniques to extract and condense moisture to produce water which is then filtered, purified and dispensed.

This localized and sustainable source of clean drinking water without any connection to municipal taps, surface or underground water source is scalable and ideal for decentralised uses. It is an environment-friendly technology as it does not put stress on existing resources. There is no wastage of water as in the case of reverse osmosis where 70% of water is wasted and re-contaminates the ground water; there are no non-biodegradable water bottles to get rid of, no transportation and fuel costs, no costs in laying of pipelines etc. All it requires is a power source. It can also be run on alternate energy. Water quality conforms to WHO standards and contain no harmful chemicals or minerals.

WaterMakers work most efficiently in warm areas with high humidity. They are ideally suited for areas where 70% of the world’s population resides and where safe clean drinking water is most needed. The volume of water production varies with temperature and humidity levels. Optimal output will be achieved in locations where the average temperature ranges from 25 to 32 degrees C and the average relative humidity level ranges from 65% - 80%. In lower humidity conditions, it will produce less water than its rated capacity and vice versa.

WaterMaker models are available in several capacities ranging from 25L to 1000L (and multiples thereof) of clean, safe drinking water per day. Models of the same capacities were recently developed for general water use, without filtration and purification.

“We are creating history, drop by drop!” says Meher, “and further innovations and development are on the anvil to help create a better world.”

* WHO/UNICEF 2021

** WHO/UNICEF 2019

Meher Bhandara is one of the Directors of WaterMaker (India) Pvt. Ltd along with her siblings Pallan Katgara, Homi Katgara and Hilla Mazda. She has had an interesting and challenging career, starting from exports, to travel and tourism with TCI – Travel

