

Plastic locally available shade cloth is typically used.



In some areas, people have to rely on water trucks to bring them water, but in Cerro Nueva Esperanza, just outside Lima, the people are dancing to thank Mother Earth for giving them water - not from the ground, but from the sky.

The villagers have set up twenty nets on the hills to trap fog. Made of tightly woven fabrics, the nets collect and condense the water from the fog and drop by drop, a plastic tube is used as a canal to carry the water to 20 tanks.

These nets are known as "cloud catchers". And for many in Cerro Nueva Esperanza, like 69-year-old Rosa Luna, they are miraculous.

Like many Peruvians, Luna used to carry home buckets of water. "We used to travel two or three kilometers from my daughter's home bringing the water and then walk up the hill with the buckets. At the time, we couldn't even get a motorcycle up here."

Two years ago, when the first 12 nets were installed, she became one of the first beneficiaries. A tube system was built so she could get the water straight into her home.

The cloud catchers at Cerro Nueva Esperanza are six-by-four metres and have the capacity to condense around 80-90 litres per day. "Altogether, we are talking about 900-3,000 litres at its best", says Abel Cruz, of Peruvians Without Water.

The nets were apparently designed by German Students and USAID, the U.S. government's development agency, helped to set them up.

Cruz says, "We think that with this system and many more, this could become the pilot programme to secure water for thousands of people who don't have water and sewage systems in Lima."

Read more: <http://www.digitaljournal.com/article/331684#ixzz27EO66B1p>

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Note: The water although distilled can pick up pathogens from the air and is not drinking water until filtered for foreign particles and purified. Purified by boiling, or adding a small amount of chlorine, iodine, ozone, silver colloid, or passed through a 0.5 micron particle filter.

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Another reference follows.



The fog that settles every winter morning on Lima now serves to irrigate crops in the nearby desert hills thanks to a "fog-catchers", a simple and cheap system that collects and condenses fog to produce between five and 15 liters of water per day.



When the Bellavista fog-catching project began in 2006, people from the village did all the heavy lifting and digging. They had to lug 94-pound (43-kilogram) bags of sand about 800 feet (250 meters) up the steep hill—about 15 minutes a trip—to stabilize the nets and build pools to gather water collected by the fog catchers.

When water started appearing, it seemed too good to be true. "At the beginning," Lummerich said, "the people from the village thought Kai carried the water uphill during the night to fill the tanks, because they couldn't believe there was so much water."

Fog collection works not by condensation, which is what happens when water vapor hits a cold surface and transforms into a liquid. In fact, the water in fog is already in liquid form—it's just in very, very small drops.

The collectors Lummerich and Tiedemann started with look like giant volleyball nets, 13 feet (4 meters) tall and 26 feet (8 meters) wide. The nets, perpendicular to the prevailing wind, stretch between pairs of wooden poles. The top of each net is 18 feet (5.5 meters) above the ground.

As wind blows the heavy fog through, tiny droplets stick to the coarse woven mesh, made of a kind of plastic netting that is designed to shade young fruit trees. The netting is easy to find—any hardware store in Peru carries it—and relatively inexpensive.

As more and more tiny droplets stick to the net, they clump together and form drops, and eventually gravity pulls the drops down into a gutter. From there, the water flows through

tubes into two brick tanks and a pool—all built by villagers—which together hold more than 25,000 gallons (94,635 liters) of water.

On a good day, a single net in Bellavista can collect an impressive amount of water—more than 150 gallons (568 liters).

"It's amazing when you're up there and it's foggy and the wind comes in. Then you hear all the water start running into the reservoir," Lummerich said. "It's like opening a tap."

She and Tiedemann also designed another fog collector, with multiple layers of netting to better catch a shifting wind, which they erected in 2007. The new design has collected more than 600 gallons (2,271 liters) in a day without taking up any more space than the original nets.

They are growing tara trees, which bear a valuable fruit whose tannins are used for treating furniture leather. The money they'll earn from selling the fruit will help pay for maintaining the fog-catching installations.

Eventually the trees should be able to collect their own water, as the leaves act like fog collectors themselves, accumulating the water, which should drip down and replenish groundwater.

Even after the trees are taken care of, there's enough excess water now to feed gardens below the fog collectors.

<http://news.nationalgeographic.com/news/2009/07/090709-fog-catchers-peru-water-missions/>