Fog Catchers Harvest Air's Water in Arid Place

—Photograph by Anne Lummerich

July 9, 2009--When dense fog sweeps in from the Pacific Ocean, special nets on a hillside near Lima, Peru, catch the moisture and provide precious water to an area that gets very little rainfall--about half an inch (1.5 centimeters) a year.

The nets stand perpendicular to the prevailing wind, which blows fog into the coarse, woven plastic mesh. From there, drops of fog-water fall into gutters that carry the water to collection tanks.

Since 2006 the nets--built by German conservationists Kai Tiedemann and Anne Lummerich--have helped provide the village of Bellavista, 10 miles (16 kilometers) south of Lima, with hundreds of gallons of water each day during the foggy winter months of June to November.

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Conservationists Kai Tiedemann and Anne Lummerich have helped the residents of Bellavista, Peru, plant 800 new river she-oak trees, such as those seen above, with water collected from fog-catching nets.

The young trees also serve as natural fog catchers--their branches take moisture from the air that helps to irrigate other plants. Snaking between the trees is a channel for the fog water the trees generate, made of tiles taken from a trash heap.

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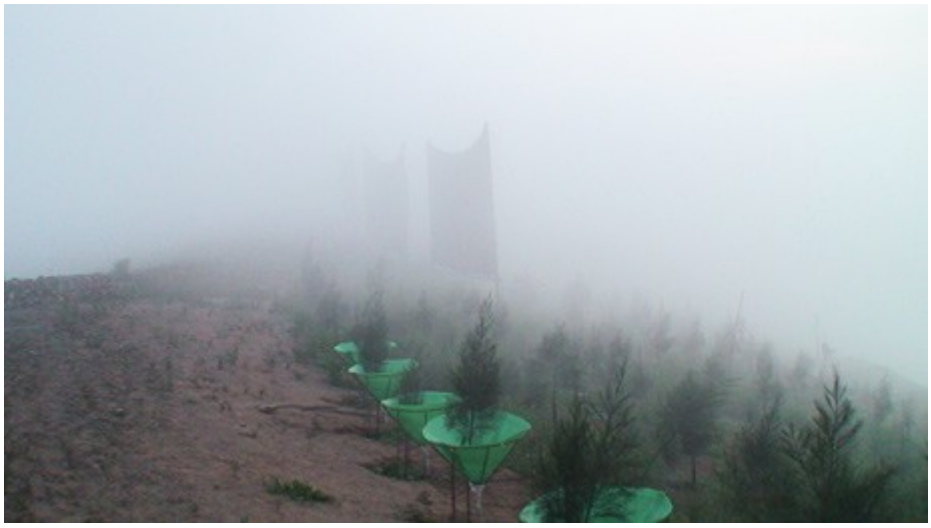

—Photograph by Anne Lummerich

Plastic funnels collect fog-water dripping from river she-oak trees planted in Bellavista, a small hillside settlement outside Lima that receives very little rainfall.

Desert and other dry communities around the world started harvesting fog-water dripping from trees as far back as 2,000 years ago.

Before fog-catching nets were installed, Bellavista residents relied on water that was trucked in, often paying ten times as much as people farther downhill who are connected to the municipal water supply.

—Photograph by Anne Lummerich

Two workers in Bellavista, Peru, perched 18 feet (5.5 meters) high to sew nets onto a fog-collecting apparatus in October 2007.

Conservationists Kai Tiedemann and Anne Lummerich designed this fog

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catcher--nicknamed "Eiffel" for its metal frame--to collect up to 660 gallons (2,500 liters) of water a day in the foggy winter months from June to November.

When the fog-water starts flowing, "it's amazing," Lummerich said. "It's like opening a tap."

—Photograph by Anne Lummerich

To construct their fog collectors, residents of Bellavista, Peru--including the group seen above in 2007--worked on Sundays transporting bricks and heavy bags of sand up a steep hillside to their settlement outside Lima.

The bricks and sand were used to build a 9,510-gallon (36,000-liter) reservoir on a hilltop to collect water from fog-catching nets, built by conservationists Kai Tiedemann and Anne Lummerich.

"We transported exactly 1,800 bricks this way," Tiedemann said. Bags collectively containing ten tons of sand, he joked, "weren't as easy to throw."

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—Photograph by Anne Lummerich

Conservationist Kai Tiedemann (front) and local worker Segundo Velasquez inspect a net in April 2007 that Tiedemann and Anne Lummerich designed to collect water from fog in Bellavista, Peru.

Although fog collection isn't practical on a large scale, in small communities such as Bellavista--where water can't be obtained from wells, rain, or a river--the technique can be a lifesaver, freeing poor people from high water prices.

Source: Fog catchers harvests air for water.

Homepage: Fogharvesting dot com.