BASIC CASE INFO

11

Inspiring Initiative: Fog Collectors in the Coastal Border of the Atacama Desert
Land: Chile
Land degradation: Water degradation (quality) by mining
Initiative by: Fishermen of the Caletas community, Chañaral Municipality, Pontificia Universidad Católica de Chile **/ Initiative reported by:** OLCA

Fishermen Catching Clouds for an Alternative Livelihood

A LOW COST, LOW MAINTENANCE TECHNOLOGY

The fog catchers are constructed from polypropylene netting (widely used in Chile as a wind break) strung between eucalyptus trees or poles so that the nets face into the wind and 'catch' the clouds of fog. The fog condenses on the surface of the netting and the water drips down into a basin dug underneath the net, from where it can be canalized or piped downhill into storage. They are extremely simple and cheap to construct and rely on gravity to do most of the work. Their initial vulnerability to occasional high wind speeds has been corrected, and now the nets can be taken down during storms.

SETTING THE INITIATIVE

The Atacama Desert, in the north of Chile, is one of the most arid regions of the world. Communities living by the sea used to rely on subsistence fishing for their livelihoods - but waste from local mining operations decimated local fish stocks and threatened their livelihoods forcing them to look for alternatives.

Throughout the year heavy mists blow off the sea, shrouding the high local cliffs and mountains. The fishermen wondered if there was some way to capture the water in the mist and use it for irrigation, thereby creating an alternative livelihood. They enlisted the help of the Geography Department at the Catholic University to set up a study to explore if fog nets *(atrapanieblas)* would provide sufficient water to sustain viable agricultural businesses.

Other similar projects had been tried elsewhere in Chile and had proved technically feasible. However the economics of them depended on the local topography (which dictated the amount of piping needed). In addition there was insufficient local social support to maintain the fog nets, so they quickly fell into disrepair. In this case the topography was favourable and the project was initiated by the beneficiaries so there seemed a better chance of sustaining the project.

MAKING THE DIFFERENCE

The fishermen initially experimented with six fog collectors, with a surface area of 264 square metres which were positioned six hundred metres above the plots intended to be used for agriculture. They found that these nets captured more than 1,000 litres of water per day enough to establish plastic greenhouses where they grow tomatoes and aloe vera. Since this first experiment they have built a further eight fog collectors, more than doubling their water harvesting capacity. As the project was initiated by the fishing community itself they have a vested interest in sustaining it and in building new alliances with different donors and other support organisations. The nets now also provide water to tourists visiting the nearby Pan de Azúcar National Park and there are possibilities for developing eco-tourism related enterprises.

The potential of fog nets has been recognized again and is being discussed with other communities in Chile with similar topographic conditions. One of the researchers involved in the project has been involved in establishing fog nets technology in other Latin American countries as well as in Namibia, South Africa and Nepal. This simple technology is replicable in other arid areas with dramatic altitude differences and the right weather conditions.