

# Feasibility Study of Wastewater Purification by Low Temperature Distillation Method

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## Purpose of the Study

As the demand for water increases and available water sources become scarcer, the need for economical and sustainable ways to reclaim high quality water from impaired waters becomes imperative. Recently at New Mexico State University, Dr. Nirmala Khandan developed a low-cost, low-energy desalination process powered by the waste heat of an air-conditioning system. The researcher will modify this low-energy desalination system and determine its effectiveness and efficiency as well as possible uses for the treated water.

## Study Underway

- The existing low-cost, low-energy desalination system will be modified by integrating the condenser with the evaporation unit.
- A prototype-scale demonstration of the system will be conducted using the effluent from the Las Cruces wastewater treatment plant as the feed.
- The quality of the treated water will be monitored to determine the appropriate uses of the water.

## Benefits

- The modified desalination system has small area requirements, simple process operations, and low equipment costs.



Top: The 30-foot tall tower houses the datalogger, evaporator, and aluminum condenser.

Left: Gude collects a freshwater sample. He is from India, where he received a B.S. in chemical engineering in 2000. He also has an M.S. in environmental engineering from the National University of Singapore. He will graduate with his Ph.D. in the fall of 2007.