

Lessons From The Sea

By Teresa Conway

When the fall quarter got under way at Eastern Washington University in September 2006, biology professor Prakash Bhuta was far from the familiar surroundings of his classroom, where he'd taught courses like molecular biology and microbiology countless times before. In fact, he was thousands of miles away from the Cheney campus, in a classroom of a different sort – a salt pond in India.

"I am conducting two different research projects, including one that examines the changes in bacterial population with an increase in salinity in seawater ponds used in the manufacturing of table salt," says Bhuta, who is studying the marine environment in his native India for two quarters. "I also hope to clone a specific gene from marine bacteria and learn more about trials to grow commercially useful plants in arid, saline wasteland."



Harvested crude sea salt piles up on a salt farm.



A technician collects a brine sample for Dr. Bhuta to study.



Dr. Bhuta at work in the lab.

For the EWU professor, the research trip brings him full circle. Thirty years ago, Bhuta left India for graduate studies in the United States and a dream of becoming a teacher. Now that he has accomplished that, he's gone back to India to build upon his knowledge.

Bhuta is working at The Central Salt and Marine Chemical Research Institute in Bhavnagar, India, a coastal town of nearly 300,000 people.

It's considered a premiere research institute where the mission is to find ways to make something useful of India's coastal wasteland, seawater and marine algae. While his research might appear a little hard to comprehend, Bhuta says it's essentially about making good use of the resources you have.

He explains how the coastal area around Bhavnagar is shallow and the seawater has seeped underground, contaminating the fresh water table. As a result, many previously fertile fields are now barren due to high salinity. The group Bhuta is working with is investigating mechanisms for salt resistance in a certain plant.

"The scientists involved in this project are trying to isolate salt resistance genes and would then like to make transgenic plants of Bajri (a type of millet) and peanut," says Bhuta. "These two plants are important staples and cash crops for the local populace."

For Bhuta, the research isn't just an opportunity to improve the lives of those in India. It's a chance to improve the educational experience of his students back at Eastern. "My studies are directly relevant to my teaching," says Bhuta. "In addition, I am also interested in offering a separate laboratory course in molecular biology to give my students direct experience in gene cloning."

Bhuta says since his research will take some time to complete, it will have to be continued when he returns to Cheney, giving his students a unique learning opportunity. But he's not waiting until he returns to share what he's learning. Bhuta set up a blog to keep his students and colleagues at Eastern informed about not only his research, but also his cultural experiences in India.

"This gives them some international exposure without having to leave the shores of the U.S.," says Bhuta, who's discovering that some of the best lessons come outside the classroom.

To learn more about Prakash Bhuta's research and experiences in India, check out his blog at <http://bhuta.wordpress.com>

Photos courtesy: Dr. Prakash Bhuta