

In the Israeli Desert, a Modest Effort to Build an Environment for Peace

By MATTHEW KALMAN

DEEP IN a desert in southern Israel, more than a hundred miles from the nearest city, a tiny academic flower is growing.

The Arava Institute for Environmental Studies is a small place with big ambitions: to help end the conflict between Israelis and Arabs by training a new generation of engineers and activists who will find solutions for problems like water scarcity and the need for renewable energy—issues that transcend the political boundaries in the Middle East.

Founded in 1996, the institute accepts 40 undergraduate and master's students each year, divided equally among Israeli Jews; Arabs from Israel, the Palestinian territories, and Jordan; and international applicants. In 2013 the number will double to 80.

Arava's annual budget is just

across disciplines" in environmental research.

"They've broken what were formerly barriers to good research in this area by doing it with more integration between physical science and social science," he says. "It's now widely recognized as important, but it's not applied as much as it's talked about. They really do apply it."

'NATURE KNOWS NO LIMITS'

Arava's student population is unique for the region. Israeli Arabs make up just 12 percent of Israeli college students. Jewish Israelis hardly ever study in the Palestinian territories or Jordan, and Palestinians are generally barred from studying in Israel. Jordanians are often discouraged from enrolling at institutions in the Jewish state.

All studies at Arava are in English, leveling the language barrier. And its isolated location on a kib-



MAYA LEVIN FOR THE CHRONICLE

"The peace-building stuff is not our business," says David Lehrer, director of the Arava Institute for Environmental Studies. "It's the way we do business, but the business we're in is the environment."

ba. The program combines scientific and engineering studies—earth sciences, environmental sciences, renewable energy, sustainable agriculture—with social sciences, including environmental law, public policy, and education, as well as ethics, religion, and economics.

"The course is designed to give

"There is an anticooperation, antinormalization campaign in Jordan targeting Israel, and that's a threat," says Mr. Halasah. The engineers' union in Jordan, he notes, could cancel his membership if they knew he had studied in Israel.

Mr. Halasah is founder and chief executive of Integrated Green Solutions, in Amman, where he continues to connect Jordanians working in water management, sustainable agriculture, and alternative energy with former professors and fellow alumni.

Arava alumni are now working in environmental groups and government ministries in Israel, Jordan, the Palestinian territories, and the United States, creating a network of personal cooperation in a region where such ties are rare.

PRACTICAL AND LOW-TECH

The institute's interdisciplinary approach is also key, since water is not just a crucial environmental issue, but also a political one.

Bart Johnsen-Harris, an American studying at Arava after receiving a bachelor's degree in environmental studies from Brown University, is looking at how pollution affects the Besor River system, in the Negev desert, and how political realities complicate any potential cleanup effort. The Besor originates near Hebron, under Palestinian control, and flows through the Israeli city of Beersheba and into the sea through Gaza. "If Israel cleaned it up," he says, "they would have to give back the water, because it's the property of the Palestinians."

Arava's faculty members seek to generate graduates who can develop practical, sometimes low-tech, solutions for environmental and energy problems.

Tareq Abu Hamed, who oversees the institute's Center for Renewable Energy and Energy Conservation, is one of the few Arab heads of department in Israeli academe. His center helped create biogas units that convert agricultural waste into clean fuel. They are being used in the West Bank, Jordan, and beyond.

"One of my students worked on

the bio-gas project on the West Bank, then installed the technology in war-ravaged Bosnian villages, then India, and will be taking it to Haiti," says Eric Pallant, a professor of environmental science at Allegheny College, in Meadville, Pa., which sends two to four students to the institute each year.

Such broad thinking about environmental issues is lacking in other Israeli programs, say students at Arava.

Manar Saria, an Arab Israeli from Haifa who recently graduated from the Arava master's program, earned a bachelor's degree in environmental and water engineering at the Technion-Israel Institute of Technology a highly regarded engineering school. But Ms. Saria, who was the only Arab in her undergraduate class, says at Arava she learned not just to think in terms of construction and materials, but also to consider the social and environmental impact.

"At the Technion I got only the technical approach," she says. "I came here and realized, Wow, I'm missing a lot."

Since graduating from Arava, Ms. Saria earned a Fulbright scholarship to study for a Ph.D. in environmental engineering and public policy at Carnegie Mellon University. "Now I'm going back to engineering after adopting this holistic approach," she says.

SMALL STEPS TOWARD PEACE

To be sure, politics cannot be confined to the classroom with such a diverse student body. The institute has a weekly peace-building and environmental-leadership seminar, where political issues are discussed, often with passion.

Muhanad Majdikharrar, a Palestinian who studied civil engineering at An-Najah National University, in the West Bank city of Nablus, says that until he arrived at Kibbutz Ketura, he had never met an Israeli who wasn't a soldier.

"It was really, really amazing to have these discussions with Israelis," he says. Such small efforts, he adds, can be the "first step" on the road to reconciliation between Arabs and Israelis. ■



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Solar panels are among the technologies that Israeli and Arab students work with at the Arava Institute, which gets plenty of sunlight.

\$1.5-million, and its modest offices occupy a converted turkey house with mud-brick walls. But it punches above its featherweight class with internationally recognized work in desert agriculture, water management, and alternative energy.

David B. Brooks, a Canadian water-management expert who has studied environmental issues in the Middle East, says the institute helped pioneer the use of the global positioning system in water research and was the first in the Middle East and North Africa to "jump

butz that is a two-hour drive from the city of Beersheba means that students have few outside distractions and live and work in close quarters.

"We teach that nature knows no limits," says its director, David Lehrer. "The peace-building stuff is not our business. It's the way we do business, but the business we're in is the environment."

The institute offers a minor in environmental studies for undergraduates and a master's degree in desert studies through Ben-Gurion University of the Negev, in Beershe-

ba. The program combines scientific and engineering studies—earth sciences, environmental sciences, renewable energy, sustainable agriculture—with social sciences, including environmental law, public policy, and education, as well as ethics, religion, and economics.

Suleiman A. Halasah, a graduate of Arava from Jordan, learned about the program from Jordanian alumni and ignored friends who told him not to go to Israel. "The warnings made me want to go. I thought: Let's try it and see this evil that people are talking about."