

NEWS

From GEORGIA TECH'S ENGINEERING EXPERIMENT STATION

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GEORGIA TECH TO INTRODUCE RENEWABLE
ENERGY TECHNOLOGIES IN RURAL SUDAN

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Oil-poor Sudan is getting a quick infusion of renewable energy technology from the United States.

A team of Georgia Tech engineers arrived in this North African country last November to introduce a variety of alternatives to petroleum in Sudan.

The \$2.6 million program will last four and a half years, and its purpose is to promote energy self-sufficiency in Sudan.

Unlike neighboring Libya, Sudan is not a major petroleum producer and nuclear power is prohibitively expensive for a country of its economic resources. However, sunlight and forests can be tapped as energy sources, and the Nile River offers extensive opportunities for generating hydroelectric power.

"Obviously, we'll have to select forms of energy which the rural populace can accept and use," says Dr. Ron Larson, leader of the Tech group in Sudan. "But we also will need to find manufacturers in the country who can produce the necessary equipment and materials cheaply enough for the local economy to support."

Tech isn't undertaking this effort alone. The U.S. Agency for International Development has provided \$2.6 million to fund the project, and the Sudanese Energy Research Institute will be working with the Georgia Tech team of engineers. Tech also will be assisted by two Washington, D.C., consulting firms, TransCentury Corporation and Energy/Development, International.

"Actually, we have two main jobs," Larson says. "First we have to introduce renewable energy technologies to rural Sudan. At the same time, we'll be training personnel from the Energy Research Institute to carry on with this work when Georgia Tech is gone."

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The project began in November, 1982 and data currently is being collected and analyzed on energy practices in Sudan. Energy alternatives under consideration include more efficient wood and charcoal stoves, improved charcoal kilns, biomass briquettes, low-temperature solar heating and drying devices, and ethanol distilleries which use molasses as a raw material. Also under study are technologies for water pumping and lifting, grain grinding and dehulling, rural refrigeration, and combustion and gasification of agricultural wastes.

Larson took charge of the Georgia Tech group in Sudan after a stint as a national planner in the Solar Energy Research Institute in Colorado. For this reason, he is especially interested in the impact which solar energy can make in a developing country where the skies are seldom overcast.

"There's a tremendous need for alternatives to oil in the developing world and one possible answer is solar," Larson says. "The economics in Sudan are better by far than in the United States. So if you're interested in developing solar energy, this is one of the places to do it."

Larson's party will work with the Sudanese Energy Research Institute in formulating approaches to market and demonstrate renewable energy technologies selected for the program.

The Sudan project is one of several economic development efforts being directed by Georgia Tech in north Africa. Tech engineers also are leading a \$6.6 million program to set up an industrial extension service in Egypt to improve manufacturing productivity. In addition, Tech's School of Information and Computer Science is directing a \$4.5 million project to develop a computerized national information system for Egypt.

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