AFRICA

Population Research Center Launched

LONDON—Britain's Wellcome Trust this week announced its most significant research venture so far in Africa: an $8 million award for a new center for population studies and reproductive health in South Africa. "It's fantastic that the Wellcome Trust is putting money into this area," says Peter Hall, a team leader at the World Health Organization's special program of research in human reproduction.

The Wellcome Trust—one of the world's largest private funders of biomedical science, with a research budget of $400 million per year—launched an $80 million population research project following the United Nations' International Conference on Population and Development in Cairo in 1994. The new African Centre for Research in Population Studies and Reproductive Health, which will be based in Durban, represents a cornerstone of this project. "I'm delighted by the Wellcome Trust's new commitment to this area," says Alan McNeilly, director of the U.K. Medical Research Council's Reproductive Biology Unit in Edinburgh.

The new center will be jointly run by the Durban branch of South Africa's Medical Research Council (MRC), the University of Natal, and the University of Durban-Westville. The $8 million grant, spread over 5 years, is the biggest single grant for health research awarded in South Africa. "In this field, no other center on the African continent has won this level of funding," says Salim Abdool Karim, one of the organizers of the winning bid.

As well as a base in Durban, the center will include a purpose-built field station due to open next year in Mtubatuba in the Hlablisa district of KwaZulu Natal, 300 kilometers northeast of Durban. A first major task will be to gather sociodemographic data on a population of 75,000 people in the Hlablisa district, who will form the core of the project, says Karim. The center's organizers plan to set up multidisciplinary teams led by internationally recognized scientists to work on 16 projects. These include studies on the effects of syphilis and urinary tract infections during pregnancy, the sexual health and development of adolescents, and the migration and spread of HIV.

The aim is to use the research effort to improve local health care. "The key project goals are to decrease levels of mother and baby mortality, rates of sexually transmitted diseases, and to reduce the impact of HIV," says Karim. He adds that the center's researchers cannot yet put numbers on their goals until they have the detailed demographic data, "but we are going to be ambitious." The center also aims to study how African culture influences sexual health to provide insight into the continent's population problem: Africa's population of 740 million is expected nearly to double over the next 3 decades.

The center aims to bridge research and policy. "We want to show [regional health authorities] what is appropriate in a poor, rural setting," says Karim. The center also plans to attract postgraduate students from throughout Africa and to provide facilities for other senior international researchers, he adds. The new center's commitment to use its research results to have a real impact on health has won the approval of McNeilly, for one. "We are working in Cape Town on contraception and realize the importance of using the results of research. The new center is certain to help."

–Nigel Williams

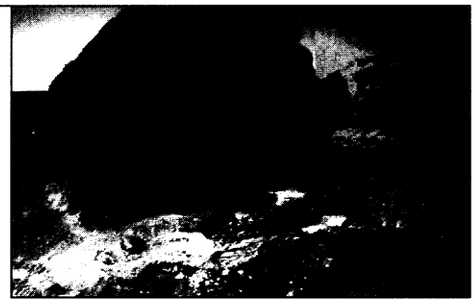
PLANETARY SCIENCE

Rocky Mix Suggests Wet Early Mars

Mars today is so dry and cold and nearly airless that liquid water cannot exist on its surface. But it hasn't always been that way. Researchers studying images of the planet's oldest terrains taken 20 years ago by the orbiting Viking spacecraft traced networks of valleys, presumably cut by running water 4 billion years ago. Geologists have debated whether the water fell as rain or simply oozed out of ground warmed by internal heat, which would imply a more severe climate. Last week, however, closeup images of rocks on the surface taken by the Mars Pathfinder rover provided independent evidence for a benign—and possibly life-supporting—early climate.

Those images revealed pebbles on the martian surface that could have been rounded by tumbling in flowing water along with what appear to be conglomerates, rocks made of sand and water-worn pebbles. If the interpretations hold up, they would argue for a sustained period of warm, wet climate early in martian history, Pathfinder team members told a press conference. The formation of conglomerates, says Pathfinder project scientist Matthew Golombek of the Jet Propulsion Laboratory in Pasadena, California, "requires long eras of liquid water flowing by. ... That is one requirement for life."

Team member Henry Moore of the U.S. Geological Survey in Menlo Park, California, pointed to rounded rocks, one of which was 4 centimeters across, protruding from the surface imaged by the Sojourner rover. The rocks look like the cobbles found in stream beds on Earth, although Moore noted that several processes not involving liquid water could have produced them, such as splatter from a volcanic eruption or meteorite impact. But he also showed similar-looking lumps protruding from the rocks dubbed Lamb and Shark. An unnamed 20-centimeter rock near Shark has lumps as well as pockets where pebbles may have popped out. Pebbles in a matrix are the hallmarks of conglomerates, which suggests, Moore says, that these rocks formed when loose pebbles rolling along in a stream or flood were cemented together with smaller debris and sand.



NASA/JPL

A rock from better times? Running water may have formed the 20-centimeter rock at the near right.

Other planetary scientists had cautious reactions to Moore and Golombek's proposal. Raymond Arvidson of Washington University in St. Louis says he trusts the basic observations, because "Henry is a very conservative guy. The question becomes, is it a conglomerate? If it is, that shouts out water transport." However, team member and mineralogist Harry McSween, who caught the press conference on television at his office at the University of Tennessee, Knoxville, says the images alone have not yet persuaded him that the rocks are conglomerates. He also notes that the rover's compositional analyses of five rocks around the site don't suggest the variety that conglomerates, being made of rocks from many different sources, might exhibit. More analyses are needed, he says, such as fine-scale color imaging, to search for compositional variations.

More discussion among team members might help too, says McSween. Most Pathfinder researchers have been working back at their home institutions for months, thanks to highly capable data telecommunications. "A lot of things might get resolved," he says, "when we can sit down face to face and argue about the data, instead of everybody listening to each other's press conferences."

–Richard A. Kerr