FREEDOM OF INFORMATION

# Indian Scientists Question Government Grip on Data

**Geological, health, and environmental data are often generated but kept out of the hands of those who could put it to good use**

**NEW DELHI**—When a team of researchers announced last fall that they had discovered putative tracks made by wormlike creatures 1.1 billion years ago, colleagues from around the world expressed an interest in visiting the site in central India where they were found. But even Indian paleontologists familiar with the region had difficulty pinpointing the exact location. The reason: Available maps of the Churhat area offer a resolution of 2 to 5 km, an order of magnitude less than scientists require to help them get up close and personal with the formation. More detailed maps do exist; indeed, they lie piled up on dusty shelves in the offices of the Geological Survey of India in Nagpur, in central India. But the survey, citing security concerns, has never made them public.

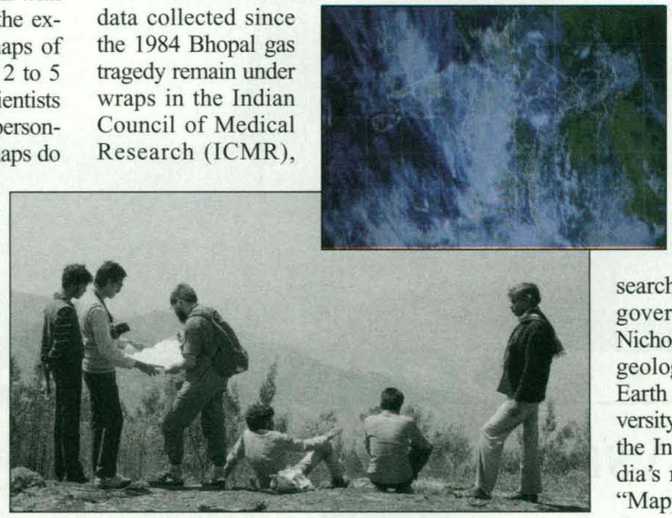
In an era when information is power, Indian scientists are complaining bitterly that the government's tightfisted control of scientific data has turned them into 98-pound weaklings. On 14 to 15 July, a panel of the Indian Academy of Sciences in Bangalore held a first-ever meeting of its kind to explore how to open up a trove of data now shielded from scientific eyes. Its Panel on Scientific Data of Public Interest is also exploring ways to improve the quality and archiving of meteorological, geographic, oceanographic, health, and agricultural data. But its first and greatest concern is simple access. "These are absolutely useless and archaic rules which only hinder the progress of science," says Dhiraj Mohan Banerjee, a sedimentologist at the University of Delhi, referring to procedures imposed in 1967 by the Survey of India, the main topographical mapping agency of India, that placed severe restrictions on the sale of maps of the type that would be useful at Churhat.

Geographical information is not the only kind of data subject to such restrictions. Whereas all development projects in India need an environmental clearance, for example, the Environment Impact Assessment reports that lead to such clearances are never made public. That policy includes projects such as the dams being built on the Narmada River that will affect millions of people, says Ashish Kothari, an environmentalist with Kalpavriksha, an Indian nongovernmental organization. "They fear that people may actually question the quality of such technical and scientific data" upon which those decisions are made, he says.

The health sector is another case in point. Relevant medical data collected since the 1984 Bhopal gas tragedy remain under wraps in the Indian Council of Medical Research (ICMR), 15 years after methyl isocyanate leaked from a Union Carbide factory in the central Indian city of Bhopal, killing over 4000 people and maiming thousands of others in the world's worst industrial disaster. The council's research projects ended in 1994, says Pushpa M. Bhargava, a well-known molecular biologist and member of the Sambhavna Trust that is working with the victims of the accident, but a final report on its findings has never been made public. "It is simply shocking," says Bhargava. For their part, ICMR officials say that no such final report exists, and they have refused to comment on a leaked 1992 draft report that has been widely circulated.

The 3-decades-old rules restricting access to geographical data have attracted the most attention, however. Written on the advice of the defense ministry, they apply to maps for an 80-km belt along the border areas and coastal zones, as well as to gravity maps and high-resolution maps that depict geological formations and rocks. Gaining access to such maps means navigating through an interministerial bureaucratic procedure with at least 15 stages of negotiations. The time-consuming process—too onerous for most academicians to endure—was designed to protect the country from outside threats and to ensure that only an elite corps of government officials had access to the data. But today, in an era of remote sensing and global positioning systems, scientists say it serves neither purpose. "No longer do I need a topographical map to know my exact grid point," says Sampige Venkateshaiya Srikantia, a Himalayan geologist and secretary of the Geological Society of India in Bangalore.

Srikantia also believes that the ongoing Kashmir conflict provides a clear example of how restrictions have not helped. "Having restricted the sale of maps did not in any way stop Pakistani intruders from entering Indian territory and occupying strategic points," he notes. What suffers in the bargain, he says, is genuine Himalayan research, which tries to map areas prone to landslides and avalanches.



**Two views.** India sells high-resolution satellite images, like this one of monsoon cloud cover, to the world while restricting scientific access to adequate maps of much of the country.

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Many international researchers share his concern over the government's restrictive practices. Nicholas Christie-Blick, a sedimentary geologist with the Lamont-Doherty Earth Observatory at Columbia University who has worked extensively in the Indian lesser Himalayas, says India's rules are "counterproductive." "Mapping that is accessible only to those who did the work accrues no credit, encourages duplication of effort, and provides no mechanism for evaluating the quality of what has been done," he says. Such a waste of resources and impediments to scientific progress discourage the international geological community from joining Indian research projects, he adds.

The 30 scientists who attended the academy meeting—intended as the first in a series—are preparing a document for the government to support their recommendation that "access to geographical data should be eased." But it's not clear whether anyone is listening. Valangiman Subramanian Ramamurthy, a nuclear physicist and secretary of the Department of Science and Technology in New Delhi, admitted to *Science* that "many of the older rules deserve a reexamination in the context of changed perceptions and technological advancements." But he hastens to add a caveat that has been used in the past to justify all manner of secrecy: The nation's security must remain uppermost. "If science is not done it is not a catastrophe," he says. "But a defense slipup can lead to a catastrophe."

—PALLAVA BAGLA