ICMR's premier institution, the National Institute of Communicable Diseases in New Delhi, does not have an animal ethics committee and that the National Institute of Immunology in New Delhi formed its panel only this summer. "If they [research labs] don't even have a semblance of an animal ethics committee, how can you expect them to self-regulate?" asks primatologist Iqbal Malik, who conducted the survey as head of Vatavaran, a New Delhi–based advocacy group.

Although many Indian scientists agree that there is room for improvement, they say the proposed guidelines will merely add to an already heavy administrative burden. "There is an urgent need to have a pragmatic animal-testing policy [because] we may not have done well in the past," says Raghunath Anant Mashelkar, director-general of the Council of Scientific and Industrial Research. "But over-regulation does not help anybody."

Some researchers admit, however, that the stick of government regulation may work better than the carrot of voluntary compliance. "Who bothers to implement guidelines given out by an academic body?" says entomologist Vinod Prakash Sharma, director of the Malaria Research Center in New Delhi. "Only guidelines given out by the government have any hope of ever being followed." —PALLAVA BAGLA

Pallava Bagla is a correspondent in New Delhi.

SCIENCE EDUCATION

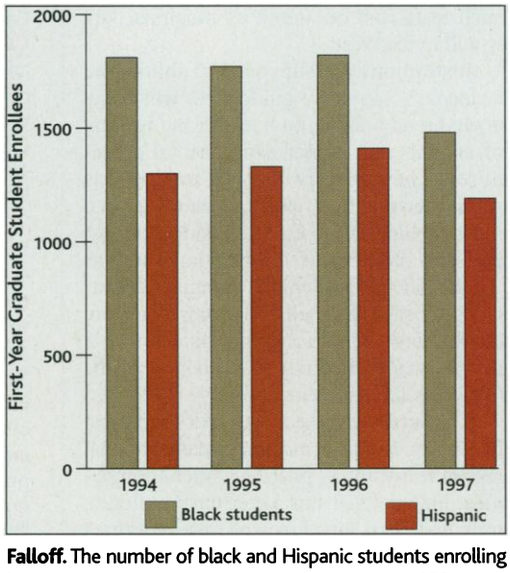
Graduate Admissions Down for Minorities

When California voters approved an anti–affirmative action referendum in 1996, and a district court that same year banned affirmative action at universities in Texas, Louisiana, and Mississippi, educators feared that minority university admissions would suffer in those states. A report* released last week by the American Association for the Advancement of Science (AAAS, publisher of *Science*) shows the situation to be even worse than many expected: Minority enrollments in graduate science and engineering programs dropped precipitously in 1997, not just in Texas and California but across the country. The report's authors attribute the fall to the uncertainty the laws and legal challenges have bred about what forms of affirmative action are legally allowable.

Coincidentally, that gloomy news came out within a day of the publication of *The Shape of the River*, a new book by William Bowen, president of the Mellon Foundation, and former Harvard University President Derek Bok, documenting the achievements of past affirmative action programs. Published by Princeton University Press, it concludes that such policies at top undergraduate colleges and universities have largely been successful in giving black undergraduates a boost toward financial success, professional and graduate study, and leadership positions.

"The society is fortunate that these two reports appear at the same time," says Luther Williams, assistant director for Education and Human Resources at the National Science Foundation (NSF). The detailed data gathered in both reports, he says, will "provide a factual basis" for new plans to recoup losses and increase minority enrollment in science and engineering programs. Federal support for such a plan was already evident last week: At a White House ceremony honoring mentors for minorities in math and science, President Clinton instructed the National Science and Technology Council (NSTC), an interagency committee that reports to the White House, to "develop recommendations within 180 days on how to achieve greater diversity throughout our scientific and technical workforce."

The authors of the AAAS report reached their conclusion by analyzing admissions data for the past 4 years from science and engineering graduate programs at 93 major research universities. They found little change in black graduate admissions and a slight increase in Hispanic admissions from 1994 to 1996. But in 1997, black admissions declined 20% and those of Hispanics dropped 18%. Report co-author Shirley Malcom, director of Education and Human Resources Programs at AAAS, attributes the plunge to a lack of clear direction from the federal government. "Administrators are feeling really uncertain because they don't know what is allowed and what is not," says Malcom. The report says that uncertainty often translates into "lukewarm attention to minority recruitment and retention" and heavier reliance on GRE scores for admission, which hurts underrepresented minorities.



Falloff. The number of black and Hispanic students enrolling in science and engineering programs dropped in 1997.

The president's new initiative should help in that regard, says Arthur Bienenstock, associate director for science at the White House Office of Science and Technology Policy: "That directive will necessarily lead the NSTC to provide clarification in this issue of what can and cannot be done in the targeted admission of minorities." NSF, which is mandated by a 1980 law to work to boost the participation of women and minorities in science and engineering, also plans to help clarify the situation by revamping its minority programs (*Science*, 28 August, p. 1268). Williams says he doesn't know yet what the changes will be but will look to the book and the AAAS report for guidance as to what approaches will work best.

As those efforts seek to reclaim lost ground, Bowen and Bok's book documents how successful race-sensitive admissions can be. The authors studied admissions and student performance data from 28 highly selective undergraduate institutions, as well as survey responses from 31,000 students who entered those institutions in 1976 and 1989. Their findings challenge several commonly held negative beliefs about affirmative action.

For example, their data refute the idea that affirmative action promotes minority students beyond their ability to succeed. Bowen and Bok compared black students with identical SAT scores at different institutions. They found that the students graduated at a higher rate from the more selective colleges, where the average SAT score was up to 200 points higher than theirs, than from less selective colleges where the average SAT score was more like their own.

The success of those black students at the top schools wasn't achieved by avoiding tough majors. At the schools surveyed, the same percentage of black students as whites (20%) majored in science and engineering. "That is so different from the myths one hears, that [blacks] are all majoring in African-American studies," says Bowen. Moreover, 40% of the black students completed a professional or doctoral degree, compared to 37% of their white counterparts.

Bowen says he hopes the book will help warm the current chilly climate toward affirmative action and encourage policy-makers to endorse race-sensitive admissions. But given the growing list of legal strictures, NSF and NSTC must walk a fine line in pursuit of their goal. —MARCIA BARINAGA

EHR PUBLICATIONS, AAAS

* From "Losing Ground: Science and Engineering Graduate Education of Black and Hispanic Americans." Ordering information available at ehrweb.aaas.org/ehr/order-exec.html