Some of the major numerical goals in the basic plan are being met, the committee concluded. Research spending has risen dramatically and is within striking distance of a projected 17 trillion yen ($142 billion) over 5 years (*Science*, 22 January, p. 478). "We may be close enough to say we've hit the target," says Nobuhiro Muroya, deputy director of STA's Planning and Evaluation Division, which helped with the report. The government has already achieved the target of 10,000 postdoctoral positions. In addition, the number of students studying for advanced degrees has increased from 39,660 to 51,360. University professors have also been given greater freedom to work with companies.

The council gave barely passing grades to other efforts, however. Despite several emergency spending measures to stimulate Japan's stagnant economy, which included money for academic renovations and new equipment, "a lot still needs to be done," says Ishizuka, one of two full-time members of the Council for Science and Technology. "There is still a lot of old equipment [in use]." And attempts to shrink government payrolls have stifled any increase in the number of research assistants, which Muroya says remains quite low.

A big disappointment to many scientists is the committee's finding that procedures established to evaluate programs and institutes have had little impact on research activity. The report notes that although most organizations have gone through the motions, their efforts "are not sufficiently reflected in the allocation of resources or management of facilities." Tomoko Ohta, a population geneticist at the National Institute of Genetics in Mishima and a member of the committee, believes the problem lies in making the evaluations sufficiently rigorous. "[Japanese] are just not accustomed to making critical comments of others," she says.

In a move unrelated to the committee's review, the Ministry of Education, Science, Sports, and Culture (Monbusho) hopes to standardize evaluation procedures and apply them to universities and national labs under its authority. A subcommittee of the Council for Science and Technology is also working on recommendations for other ministries. But no one expects a quick fix. Evaluation efforts "won't work if we don't change our culture," says Muroya, a process that must be carried out incrementally.

The committee hopes to submit a final report in about a year. In the meantime, the council plans to address some issues raised in the review, including the need for a clearer statement of science and technology priorities. One of its first opportunities will come this summer in recommendations to the Ministry of Finance for the fiscal year 2000 budget. **–DENNIS NORMILE**

SCIENTIFIC COMMUNITY

High-Level Groups Study Barriers Women Face

Mildred Dresselhaus isn't proud of the fact that she took a total of 4 days' maternity leave from her faculty position at the Massachusetts Institute of Technology (MIT) in the course of giving birth to four children. But as a young electrical engineer in the late 1960s in a bastion of masculinity, she didn't think she had much choice. "In my youth, it was necessary to play the game that way. We didn't have any options," recalls Dresselhaus, who went on to become an MIT institute professor and a member of the National Academy of Sciences (NAS).

A generation later, Elaine Mendoza, an aerospace engineer, had a lot more options when she decided to start a family. As the president and CEO of Conceptual Mindworks Inc., of San Antonio, Texas, which she founded in 1990, Mendoza has simultaneously raised two young daughters and turned a software business into one of the fastest growing Hispanic-owned companies in the United States. Her husband, an electrical engineer, is even one of her 51 employees.

> **"These distortions have persisted despite three decades of good-faith efforts."**
>
> **—Marye Anne Fox**

The contrast between the two women's experiences reflects the strides made by women in science and engineering in the last 30 years. But much more needs to be done for the country to take full advantage of its pool of scientific talent, most observers agree. This month the topic moved into the first rank of science policy circles. On 14 April a congressionally mandated commission met for the first time, with Mendoza as chair, to examine the barriers facing women, minorities, and the disabled in science. Last weekend Dresselhaus participated in a first-ever NAS symposium on improving scientific career opportunities for women. The commission is the latest in a series of federal efforts to document the problem, while the symposium, organized by the academy's Committee on Women in Science and Engineering (CWSE), builds upon persistent concerns about the minute presence of women—currently 5.9%—in the overall NAS membership.

A major issue for both groups is a decline in the participation of women in science as they make their way through school and into the academic work force. "As you move along the educational and labor continuum, the gender gap becomes more and more pronounced," says Marye Anne Fox, chancellor of North Carolina State University, Raleigh, and moderator of the NAS symposium. "And these distortions have persisted despite 3 decades of good-faith efforts." The trend is especially troubling in younger fields like computer science, says William Wulf, president of the National Academy of Engineering. Women make up half the enrollment in high school computer science classes, he noted, but receive only 28% of the bachelor's degrees in the field. Their share of Ph.D.s drops to 16%, he added, and they hold only 6% of full professorships.

This gender gap reflects the continuing difficulties of women scientists in academia, say many observers. And even those who "make it" face systemic discrimination in such areas as salaries, lab space, and service on key committees, according to a new report on the status of tenured women faculty at MIT (*Science*, 26 March, p. 1992).

It's an open question whether industry is more receptive. IBM's Lillian Wu, a member of the President's Council of Advisers for Science and Technology and co-chair of CWSE, says she's seen a rapid improvement in the past 5 years and that today "there's a tremendous appreciation for what women can bring to technology." But Kathryn Johnson, co-chair of the congressional panel and a geoscientist who runs her own consulting firm in South Dakota, says that she and many other women have become entrepreneurs in part to escape the "glass ceiling" and "chilly environment" at many big companies.

The NAS symposium featured a spirited discussion about such gender-related issues as whether science, in the words of Harvard physicist and CWSE co-chair Howard Georgi, "unconsciously discriminates" against women by selecting for such traits as "assertiveness" and "single-mindedness" that favor men. The way women respond to inequalities was also debated. Asked why the MIT women waited as long as they did to seek redress, Dresselhaus replied, "Women aren't as aggressive in asking for equality in salaries and amenities. There were several instances where I was shortchanged and I didn't complain. So part of the problem is us—not them [men]."

Both committees hope to compile and disseminate a list of current best practices and suggest concrete ways for organizations to increase opportunities for women. But entrenched attitudes are often hard to change. "It's more acceptable for a woman scientist to have a family today," Dresselhaus admits. "But it's not any easier." **–JEFFREY MERVIS**