JAPAN BUDGET

New Projects Receive Boost As Cuts Pinch Current Work

TOKYO—Japan's efforts to revive its precarious economy are creating a new batch of scientific winners and losers. The government is pouring money into new projects and facilities, while squeezing the operating budgets of several major existing programs.

This odd situation is the result of two separate budget decisions and a tangle of laws and regulations that restrict how ministry officials and institute administrators can spend appropriated funds. Last week, the government announced a $128 billion package of spending and tax cuts—the largest of several such efforts to create jobs and stimulate domestic production since the economy went into a tailspin in 1991—that includes at least $11.5 billion for a host of scientific efforts. The winners range from new laboratories to high-speed computer networks, and even a bit for actual research. "Of course, we're very happy to get this additional money," says Akira Kira, an executive director of the Institute of Physical and Chemical Research (RIKEN), just outside Tokyo.

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Broken promise. Wada says cutbacks violate 1995 science law.

At the same time, other researchers are feeling the pinch of tight spending limits on individual ministries that are part of a drive to reduce the federal deficit. The cuts have drawn a protest from the Science Council of Japan, the nation's most prestigious grouping of researchers. "It's a very negative decision by the government," says biophysicist Akiyoshi Wada, a council member. Wada has drafted a letter, expected to be sent next week to the prime minister, arguing that the squeeze violates the intent of the 1995 Basic Law for Science and Technology, which called for a sharp increase in research.

The cuts also pose a threat to international R&D collaborations. For University of Tokyo particle physicist Shuji Orito, a 13% reduction in the operating and maintenance budget of his home institution, the International Center for Particle Physics, could affect the Large Electron-Positron (LEP) collider at CERN in Geneva. Orito is responsible for the calorimeter on OPAL (the Omni-Purpose Apparatus at LEP), one of four detectors searching for signs of the elusive Higgs boson and other subatomic particles. "If we have an unexpected problem with hardware, the experiment might have to stop," he says. "It's terrible."

The squeeze on research is an unintended consequence of fiscal reforms approved last fall and winter by the Japanese Diet. Faced with a flat budget for its 98 national universities and university-related research institutes, the Ministry of Education, Science, Sports and Culture (Monbusho) slashed expenses in other areas to cover automatic increases in such things as faculty and staff salaries. For research institutes, says Monbusho's Masakatsu Oikawa, that meant either delaying new projects or reducing operating costs at existing facilities by an average of 15%. "It was controversial, but that is how it worked out," he says.

Although individual institutes protested the cuts, which went into effect on 1 April, the entire community has only recently become alarmed. And researchers agree that Monbusho had little room to maneuver. "This is not the fault of Monbusho," says Orito. "Monbusho was forced [to adopt this policy] by the [central] government."

Larger Monbusho-affiliated facilities dedicated to basic research have been hit especially hard. At the High-Energy Accelerator Research Organization (KEK) in Tsukuba, for example, the operating hours of its proton synchrotron have been reduced by 20% and some experiments have been axed. "We tried to keep the most important programs," says Sakue Yamada, a KEK director, "but we sometimes don't know for 5 or 10 years just what is important."

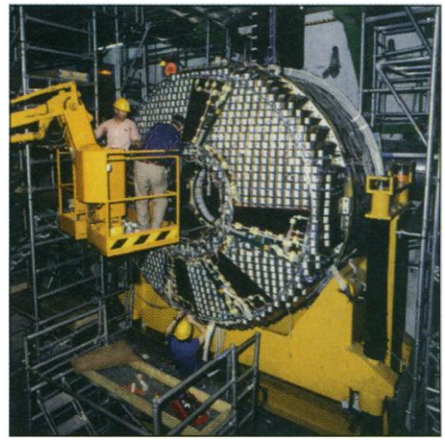
The National Astronomical Observatory (NAO) is trying to maintain its operating hours, says Director-General Keiichi Kodaira. But officials worry that they won't be able to keep their facilities "at the frontier of the field." At NAO's Nobeyama Radio Observatory, for example, cuts in the maintenance budget have delayed development of techniques to increase the sensitivity and precision of the 45-meter radio antenna.

With the government focused on the nation's economic problems, scientists aren't optimistic about a quick solution. "At the moment, the prime minister is getting any number of requests like this," says Wada. If fiscal reform laws and guidelines adopted last fall remain in effect, adds Oikawa, the reduction could extend for another 2 years.

While the government is tightening its belt on operating expenses, it is simultaneously opening its purse strings with the new stimulus package, which is expected to sail through the legislature later this month. But research administrators are blocked from using any of the funds to restore cuts in operating expenses, leaving projects expected to create jobs and trickle-down spending as the chief beneficiaries. RIKEN, for example, is expecting an extra $26 million for genome-related research facilities, $41 million toward a new building and equipment for brain science, and $15 million to hasten construction of a radioactive isotope beam factory. The money "allows us to bring facilities online sooner than planned," Kira says.

The funds are being spread broadly throughout the scientific community. The package would devote $392 million to speed up work on the high-speed electronic network connecting universities and research labs. The nation's space program would receive $144 million for continued development of a more powerful booster and for an experimental module on the international space station. The Japan Marine Science and Technology Center would get $85 million for autonomous underwater vehicles and sea-floor profilers, while existing labs under the Science and Technology Agency (STA) would undergo a $79 million refurbishing.

Although the emphasis of the new spending package is on buildings and equipment, some would go to support research teams. STA hopes to add $59 million to two major competitive grant programs, a 22% hike. It would also quintuple a $2.3 million project to support research on the health effects of exposure to industrial chemicals suspected of harming the human reproductive system, a high-profile activity following recent discoveries of improper disposal of chemical waste.



CERN

A LEP of faith. Japanese budget cuts could hinder operations of a detector at CERN's Large Electron-Positron collider.

–Dennis Normile