Slovak science lacks finance, direction . . .

Bratislava. Slovak science is fast losing its way amid the chaos that has reigned in Slovakia, the poorest of the four Visegrad states, since its split from the Czech Republic at the beginning of last year.

Prospects for the establishment of a proper governmental structure to support science and research, and the establishment of a legal basis for Slovakia's new grant agency, took another dip two weeks ago when the Slovak government fell for the third time since independence.

Science has had a hard time in the years following the collapse of communism in 1989 and the splitting up of Czechoslovakia at the end of 1992. The government unit for science and technology has been shifted between ministries several times (it is now hidden in the ministry of education, youth and sports), and has shrunk from 120 staff in 1988 to eighteen.

With no strong lobby to champion its cause in Slovakia's harsh economic environment, the total science budget has fallen from SK10 billion in 1989 to SK6.4 billion (around US$150 million) in 1992, while annual inflation has averaged 20 per cent. The number of scientific staff has fallen from 63,000 in 1988 to around 30,000 today.

The country has no defined science policy, and Jaroslav Pokorný, currently head of the science section in the ministry of education, says that a new stronger government structure is necessary before he can consider setting science priorities for the country.

Despite the chaos above and around them, some scientists have made great efforts to improve the quality of their research. Most of the real reforms have taken place in the Slovakian Academy of Sciences, which now runs 57 basic research institutes. Unlike the situation in the universities, evaluation of its institutes — on the basis of objective bibliometric criteria which have resulted in withdrawal of state funding from eight — was started in 1990. A second round is to take place later this year. The pressure on individual scientists to improve their output has meant a significant increase in publications in the past three years.

The academy has reduced its total staff from around 6,200 in 1988 to 3,380 in 1993, partly as a result of brain-drain and partly through redundancies. But instead of being rewarded for its efforts, as it had expected, the academy has seen its funding fall at a faster rate than its staff. Its budget has nearly halved over the past two years — from SK668 million in 1992 to SK381 million this year.

The collapse in financial support, exaggerated by the high inflation rate, has put enormous pressure on academy scientists. Anna Pretová, director of the Institute of Plant Genetics in Nitra, can only hope that her institute survives. Last year she managed to hold on to her 25 staff by cutting everyone's salary by 30 per cent. This year, even these measures were not enough. She had to fire five staff — "it was very difficult to do", she says — and numbers are now at the minimum allowed for an independent institute. She relies heavily on grants from the European Union and collaborative work with scientists in Western Europe to keep experiments ticking over.

One such Western scientist is Jan-Peter Nap, at the Centre for Plant Breeding and Reproduction Research in the Netherlands, who says that his continuing collaborative work on improving reliability of gene expression in transformed potatoes with the Nitra scientists has been rewarding. "Although they have virtually no facilities, they solve scientific problems with simplicity and elegance," he says.

The academy is pinning its hopes on the SK110 million that the government promised earlier this year to the new Slovak Grant Agency, set up in 1990 to fund research projects on a competitive basis, once it has achieved legal status. But the passage of the Grant Agency Bill through parliament will be delayed by the current political turmoil. In the meantime, no money is available to fund grant applications that have already been evaluated.

Alison Abbott

. . . while Czech budget doubles

Prague. The Czech government has agreed in principle to nearly double spending on science over the next few years. Combined with broad reforms that have recently taken place within the Czech Academy of Sciences, the move could give the country one of the strongest research bases in the former communist block.

In a roundtable meeting two weeks ago with scientific advisers and the finance and economics ministers, Czech prime minister Václav Klaus agreed that the country should raise its current level of spending on research and development from 0.45 per cent of gross national product (Kr4.1 billion, US$140 million) to 0.7 per cent (predicted to be over Kr10 billion), over a period of around five years.

Zahradník: reforms

The decision is not yet official, but Igor Némec, minister without portfolio who is also chairman of the government science and technology advisory group, says that "the principles of the agreement will not change". This means that scientists may expect a rise of 20 per cent in real terms in next year's research and development budget. This should be confirmed by the end of June.

The Czech Republic has been relatively slow in comparison with other Central European countries to restructure its science. With a privatization programme now finally well under way, much of the applied science base of the Czech Republic has been lost. The total number of people working in scientific institutes, mostly in applied research, has fallen from 133,000 in 1989 to around 60,000, and the number is still falling.

But in the last year, the basic science research base, housed mainly in the Czech Academy of Sciences research institutes, has taken decisive steps towards rationalization. When the academy's new democratic council came into being in 1990, it proved to be ineffective in allowing true reform to take place, and eventually lost support even from within its own ranks.

When it was informed in autumn 1992 that its new budget was to be reduced by one third, however, things began to change rapidly. Within weeks, evaluation committees were set up and each institute was assessed according to its scientific output (number and quality of publications). As a result, more than 25 institutes were closed and staffing levels at the remaining 59 institutes halved.

Surviving scientists say that the swift and sweeping changes were not resented, but were generally felt to be long overdue. Their average number of publications has risen in the past year despite the reduction in support staff.

And the shedding of staff was not a major moral problem. With 0.45 per cent unemployment in Prague, nearly all dismissed staff found new jobs immediately: "and they are getting twice as well paid as us poor fools still doing science" jokes Jan Bureš of the academy's Institute of Physiology.

But academy president Rudolf Zahradník says that the reforms have still not gone far enough. "Although the evaluations done last year were valuable, and decently carried out," he says, "they were done in a hurry." He now wants to establish a series of evaluation boards with foreign scientists in the majority to look again at the efficiency of each institute, and would repeat the exercise regularly every few years.

Alison Abbott