Israeli research

Neglecting the basics

Rehovot

ISRAELI basic research has dropped to "a dangerously low level" according to Professor Haim Harari, who heads the planning and grants committee of Israel's Council for Higher Education. Speaking at the recent Bat-Sheva de Rothschild seminar on science policy, Harari argued that in the past ten years Israel has gone from an over-emphasis on basic research to neglect.

This shift stems from the financial plight of Israeli universities, which now have to make do with a total annual budget of \$400 million, roughly what a single American university, Stanford (with its medical school and accelerator), spends annually. Some 70 per cent of the Israeli university budget comes from government, but how the government's share is distributed depends solely on members of the planning and grants committee, who, once appointed by the Minister of Education, are free to allocate funds as they see fit.

The government does decide, however, on the total size of its financial commitment, which has not kept pace with the growth of universities and with rising costs. As a result, local institutions of higher education must spend almost all their available funds on salaries and maintenance, leaving little for such "luxuries" as basic research.

There is a great deal of money from government ministries and booming science-based industries for applied research, but neither will support basic research, with the result, Harari says, that many professors who lean in that direction are "unemployed". To be sure, they still have their salaries, but they have no funds for equipment, technicians and the like.

Admittedly influenced by the fact that he is a theoretical physicist interested in elementary particle physics, what he terms "perhaps the most basic research", Harari is alarmed by the trend away from basic

research. So he and his colleagues on the planning and grants committee have decided to "confiscate" three per cent of the money allocated for higher education and to set it aside for basic research. They hope that this will rise to five per cent in the years ahead.

Professor Harari points out that Israel's booming computer-related companies are an outgrowth of computer research at the Weizmann Institute in the 1950s and 1960s, while Israel's aircraft industry could not have been developed if the faculty of aeronautical engineering had not been established at the Haifa Technion long before there was thought of such an industry.

But "today's basic research", Professor Harari warns, "does not provide the basis for economic advances in the year 2000". Participants in the seminar also heard a spirited defence of basic research from the Minister of Science and Development, Professor Yuval Ne'eman, who, like Professor Harari, is a physicist.

Although he actually has access to less money than Harari (the science ministry's total budget this year is only \$9 million), Professor Ne'eman intends to do all he can to ensure that some Israeli scientists are able to do basic research or, as he puts it, "to grope in the dark".

There were no complaints about the present situation from those at the seminar who are primarily connected with applied research and science-based industry, among them the Chief Scientist at the Ministry of Industry and Commerce, Professor Arie Lavie, and the head of the Elron electronics company, Mr Uzia Galil.

Professor Lavie reported that large-scale Israeli Government support for research projects linked to science-based industry had been very successful, with some 50 per cent of them ending with saleable products, more than \$1,000 million of which were exported last year. Moreover, he reported, bilateral applied research projects had long been supported by the US Government and new agreements meant that such support would also be forthcoming from Canada and France. But by far the most important source of research funds was provided by stock sales. In just one month, Professor Lavie said, three Israeli science-based industries had raised \$100 million on the New York Stock Exchange, and another three expect to raise \$50 million more in the immediate future.

According to Uzia Galil, the money is available for investment in good science-based projects but there are not enough good projects to go round. A lot of new ones, he predicted, will be initiated by expatriate Israelis who, having developed electronics and computer companies in the United States, are now anxious to do the same thing in the land of their birth.

Nechemia Meyers

Polish pollution

Changes may come at last

POLAND's Council of Ministers last month bent to the need for a government agency dealing with the environment. It adopted a draft resolution breaking up the Ministry of Administration, Local Economy and Environmental Protection and establishing a Main Office for Environmental Protection and Water Resource Management.

The need for a separate body has been apparent for some time, in spite of censorship during the 1970s on all environmental issues. By making the new body a main office and not a ministry, the Council of Ministers has tacitly accepted the urgency of the problem — as a main office, the new body will be answerable to the Prime Minister.

The proposed new body will face the three endemic problems of all Polish planners: lack of resources, lack of verified data and lack of public confidence. Until 1980, little was published generally about environmental pollution. Although partial statistics were available to experts and officials, the residents of the major industrial conurbations, especially Silesia and the Krakow area, found themselves having to cope with the qualitative aspects of the problem without objective data on the hazards. (It was widely believed, for example, that vegetables grown too near the Nowa Huta steel mills were a health risk because of dust from the scrap-metal recycling plant.) In some cases the underground press reported on major health hazards, in particular the sewage pollution of the Bay of Gdansk, but these "independent" commentators may often have underestimated the hazards.

During the comparatively open Solidarity period, the Krakow-based Polish Ecological Club was instrumental in January 1981 in having banned one of the main sources of pollution, hydrogen fluoride from the obsolete smelting shops at the Skawina aluminium works which had been emitting hydrogen fluoride in quantities sufficient to corrode gold art treasures in Krakow's Wawel Castle museum.

This openness has, to a certain extent, continued under martial law, gradually building up a picture of ecological near-disaster, with rivers, lakes, coastal waters, soil, forests and residential areas all at risk. But funds to rectify matters have been scarce — and, as the presidium of the Central Committee's Commission for Health and Environmental Protection noted last November, there remain "considerable discrepancies" between the official reports on remedial measures and the perceptions of the local population.

Indeed, as Politburo member Zofia Grzyb told that meeting, the shortage of resources would make it impossible to realize many recommended measures in the

Australian-USSR relations

Sanctions lifted

Canberra

As anticipated, the federal government last week lifted all sanctions against the Soviet Union originally imposed after the intervention in Afghanistan (see *Nature* 21 April, p.648). Cultural, sporting, scientific and academic exchanges can now be resumed. The Minister for Foreign Affairs, Mr Bill Hayden, said that the decision had been taken "in the wider interests of involving the Soviet Union in a more productive relationship". The move will no doubt make reparation for the expulsion in April of a first secretary at the Soviet Embassy, Mr Valeriy Ivanov, alleged to be a spy.

Vimala Sarma

near future. A plea last autumn by Deputy Premier Roman Malinowski for "close cooperation" with Czechoslovakia and the German Democratic Republic to save 60,000 threatened trees in the western province of Jelenia Gora, where pollution and insect pests have a synergetic effect, seems to have been a broad hint that Poland's neighbours might help bear some of the cost of setting right the damage to which their pollution contributes.

By February this year, the State Environmental Protection Inspectorate produced what was described in official circles as a "pessimistic" report concluding that, in many cases, irreversible environmental changes were already under way. Surface waters, especially rivers, seem to be in a particularly bad state, with only 1 per cent of the total length of Poland's rivers in the first category of cleanness (fit for human consumption) while the Vistula has second category water (fit for agriculture) only near its source. More than 60 per cent is below even the third category (little more than sewage). These figures were known to specialists in Poland as early as 1976, but have not been publicly released until now.

Now, there is growing public recognition of the health hazards of pollution black spots. In Plock province, there has been a call for "comprehensive investigations" into the high morbidity rate, particularly among children under two years of age. Last month a 10-man environmental subcommittee of the Sejm (Parliament) visited Katowice, where it declared itself "shocked" by the workers' housing estates, with "windows only a few metres from sources of pollution".

Recently, moreover, a leading ecologist, Professor Henryk Zimny, has argued that pollution control is cost-effective, a factor the new environmental body will doubtless find valuable when negotiating funding. Some 600,000 million zloty, says Professor Zimny, are lost annually to the Polish economy for lack of pollution control. If only 10 per cent of this sum could be spent on protective measures in the immediate future, these losses could be halved.

Vera Rich

US nuclear power

NRC divided on emergency plans

Washington

THE beleaguered nuclear power industry narrowly averted a major political setback last week by persuading the Nuclear Regulatory Commission (NRC) to rescind a threat to close two power plants at Indian Point in New York. NRC had warned last month that the plants would be shut down because the Federal Emergency Management Authority (FEMA) considered emergency evacuation plans for the area to be inadequate (see *Nature* 12 May, p. 101).

Had NRC not changed its mind, the Indian Point reactors would have become the first operating plants to be closed down on the basis of deficient emergency plans. The commissioners decided by three votes to two to keep them open because a new report by FEMA said the plants' operators had stepped up planning efforts and promised to hold an emergency exercise within the next 60 days.

The close vote reflected sharp disagreements among the five commissioners. Mr James Asselstine, who voted to close the plants, said that nothing in the new report from FEMA indicated that a satisfactory emergency plan had yet been devised for Indian Point. In these circumstances, the decision to rescind the shutdown threat "made a mockery" of NRC's own rules.

Mr Victor Gilinsky, the other commissioner to vote for closure, complained that despite the uniquely high population in the vicinity of Indian Point, it was the only nuclear site that had consistently failed FEMA's tests of emergency preparedness.

But Mr John Ahearne, a commissioner who had been expected to recommend a shutdown but who changed his mind "reluctantly" after reading the new FEMA report, said enough progress had been made over recent weeks to suggest that a satisfactory emergency plan could be devised in the near future. A principal obstacle — the reluctance of a nearby municipality to participate in emergency planning — seemed to have been overcome by an undertaking by the State of New York to take over the county's emergency functions.

The commission's decision was being closely watched by the nuclear power industry and its opponents as a test of NRC's attitude towards the strict new evacuation regulations it introduced after the Three Mile Island accident in 1979. In a number of recent cases, notably at the Shoreham plant in Long Island, municipalities opposed to nuclear power have attempted to prevent reactors from operating by refusing to participate in emergency planning.

Another significant victory was scored by the industry earlier last week when the Supreme Court upheld the authority of NRC to disregard, in hearings on the licensing of nuclear plants, the possible impact

on the environment arising from the long-term disposal of nuclear waste. The Natural Resources Defense Council had challenged the commission's assumption that a method for disposing safely of long-term wastes would eventually be found.

Justice Sandra Day O'Connor, said the Supreme Court, in a unanimous decision, had found no reason to fault NRC's prediction that uncertainties surrounding the development of a permanent waste disposal depository were unlikely to affect the outcome of any individual licensing decision. In reaching this conclusion, she said, NRC was making decisions "within its area of special expertise, at the frontiers of science". In such circumstances, a court should be at its "most deferential".

At issue in the case was a table contained in the generic rules issued by NRC to aid licensing hearings for individual reactors. The table, S-3, consists of a numerical compilation of the estimated resources used and effluents released by fuel cycle activities supporting a year's operation of a typical light water reactor. In compiling the table, NRC decided to assume that the permanent storage of waste would have no significant environmental impact.

Peter David.

Kestrel under threat

THE Mauritius kestrel (above) is one of several bird species in Mauritius threatened with extinction: the surviving population is said to be numbered in single figures. Mr Robin Brown, of UK Central Television, is forming a committee to create a bird sanctuary covering the Black River Gorge in the south west of the island. The project has the support of the Mauritian Prime Minister and is backed by local businessmen and conservation groups. □