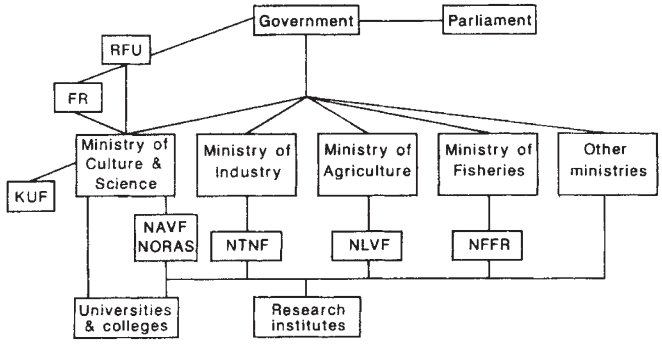
Organization

Pluralism and priorities

NORWAY takes a very pluralist approach to its research policy and the distribution of funds for research and development. Parliament (Storting) is the highest authority for science and technology policy but remains distanced from R&D problems. Various committees advise and coordinate the nation's policy and there is a sectoral policy towards research organization with individual ministries having decision-making power over the R&D activities within their field of responsibility.

The highest government agency is the Cabinet Research Board (RFU), which is chaired by the Minister of Cultural and Scientific Affairs and consists of the seven ministers with the greatest R&D responsibilities. RFU's main tasks are to consider questions of science policy, to define government priorities in areas of national interest, to prepare reports for the Storting, to promote cooperation between the Norwegian research councils and to determine the extent to which Norway should participate in international research programmes on the basis of a national science policy.



The Science Policy Council (FR) acts as an advisory body for the RFU, in research and providing information and opinions on which to base a national science policy. The committee of twelve is appointed by government and is mostly drawn from the scientific community on both the academic and industrial sides. For its first ten years FR was attached to the Prime Minister's office, but since 1975 it has been attached administratively to the Ministry of Cultural and Scientific Affairs. However, says Arnhild Hole, director general of the ministry's research division, "the government does not really know how best to use this committee, which does not play a strong enough part in forming science policy".

The most recent addition to the governmental machinery is the Research Contact Committee (KUF), which was set up in January 1987 to replace the Interdepartmental Research Committee. The new committee, consisting of senior civil servants and officials responsible for research in most ministries, promotes open discussion between ministries, research councils and research centres.

Support for research in Norway is channelled through all seventeen ministries, but primarily the ministries of Cultural and Scientific Affairs, Industry, Agriculture, and Fisheries. Other research funds are distributed by the five research councils: NTNF, the Royal Norwegian Council for Science and Industrial Research; NAVF, the Norwegian Council for Science and the Humanities; NLVF, the Agricultural Research Council of Norway; NFFR, the Norwegian Fisheries Research Council; and NORAS, the Norwegian Research Council for Applied Social Science Research.

The largest of these, NTNF, is attached to the Ministry of Industry and is associated with sixteen research institutes. The institutes used to be administered by NTNF but on 1 February 1986 they were made autonomous in line with the Thulin Report of 1981. The outcome of a commission set up to look at research and development along with industrial innovation, the report recommended that NTNF should be freed from administering the institutes to leave it more free to involve itself with planning and establishing research priorities. NTNF supports research carried out at these institutes, in industry and, to some extent, at universities. Inge Johansen, managing director of NTNF says that they wish to encourage "more innovation in industry and the transfer of technology from research to industry".

The NAVF, which like NORAS is attached to the Ministry for Cultural and Scientific Affairs, is the prime source of research grants for basic research in universities and regional colleges. It consists of various subcouncils for different research disciplines. The other research councils are attached to their corrresponding ministries and promote research in the areas defined by their title.

The research councils have the task of coordinating research programmes within information technology, offshore technology, materials technology, biotechnology and aquaculture (fish farming) — the priority areas of research that were defined by the government in 1984–85. The White Paper "On Scientific Research in Norway" says that "these areas have been selected either because they spring from new knowledge or they reflect new needs". A national programme for information technology R&D has been implemented this year and research programmes are currently under development for the other areas.

The Ministry for Cultural and Scientific Affairs has three additional priority areas, intended "to help society cope with the impact of high technology". These are: research on tradition and cultural dissemination (with the emphasis on Norway's heritage); organization, management and administrative systems; and health, environment and living conditions. The main responsibility for control of these programmes lies with NORAS and NAVF.

Of Norway's total public R&D budget (NOK 4.45 million), most is dispensed by the Ministry for Cultural and Scientific Affairs, with the Ministry of Industry as the second biggest distributor. If the government has its way, spending on research will increase by about 13.2 per cent in 1988, with 42 per cent going to universities and colleges, 22 per cent to the industrial sector and 9.3 per cent to the agricultural sector. Fisheries and the increasingly supported environmental sector will each receive about 3 per cent of the total. The proportion earmarked for defence research (6.4 per cent) is relatively small, but considered sufficient because Norway is a member of NATO. □

Professor John Ugelstad of SINTEF was awarded the 1986 annual award of the Royal Norwegian Council for Science and Industrial Research for his development of the principles and methods of industrial production of monodisperse spherical polymer particles. When magnetized, these particles can be used for cell separation. For example, cancer cells in bone marrow can be separated from the normal cells by first adding mouse monoclonal antibodies that bind specifically to the cancer cells and then introducing magnetic particles coated with an immunoglobulin that selectively binds to the monoclonal antibodies. By passing the mixture through a magnetic field the cancer cells become trapped without disturbing the normal cells. Clinical trials of the method in bone marrow tranplants are being carried out.