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Framework for Government Research and Development

Presented to Parliament by the Lord Privy Seal
by Command of Her Majesty
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FRAMEWORK FOR GOVERNMENT RESEARCH AND DEVELOPMENT

I. INTRODUCTION

1. In November 1971 the Government published a Green Paper "A Framework for Government Research and Development" (Cmnd. 4814). This included reports by Lord Rothschild, head of the Central Policy Review Staff, and by a working group of the Council for Scientific Policy under the chairmanship of Sir Frederick Dainton. At that time the Government endorsed three points. First, that applied research and development commissioned by the Government should be organised in accordance with a "customer/contractor" principle. Second, that subject to this principle, the Research Councils should be preserved under the sponsorship of the Department of Education and Science. Third, that a body of authoritative advice should continue to be available to the Secretary of State for Education and Science on the allocation of her Department's science budget. The Government invited comments before reaching decisions on the detailed application of the customer/contractor principle.

2. Many organisations and individuals have put forward comments. There was a debate in the House of Lords in February 1972. The Select Committee on Science and Technology (Session 1971–72) has also taken a wide range of evidence and published four valuable reports. The Government has had a series of discussions with representatives of all the major interests. More than 400 written contributions have been received, and the Press, radio and television have shown a wide interest.

3. The Government has now reached conclusions on a number of the main issues raised. It has been greatly helped by the wide ranging consultations that have taken place and is grateful to the organisations and individuals who participated.

II. THE MANAGEMENT OF APPLIED RESEARCH AND DEVELOPMENT IN GOVERNMENT

4. Research and development are essential to the achievement of many of the Government's objectives. Some of these relate to the Government's own direct responsibilities such as defence. Others bear on a wide range of activities—industrial, agricultural, environmental and social—for which the Government's responsibility is less direct in that it sets broad objectives in the interests of the country generally. Objectives are set by the Cabinet, and Ministers are responsible through Parliament to the community as a whole for seeing that they are attained and for ensuring that value for money is secured for public expenditure.

5. Ministers must ensure that departmental objectives are properly backed by applied research and development programmes, that is to say programmes directly related to these objectives. This country is fortunate in having a strong scientific and technical base. To make the best use of it means that those responsible for departmental objectives should also be

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responsible for defining their requirements in the clearest possible terms and commissioning the research and development work needed to achieve them. To do so the departmental "customers" must work in partnership with their research and development "contractors", whether inside or outside the Department. Responsibilities are then clear. Departments, as customers, define their requirements; contractors advise on the feasibility of meeting them and undertake the work; and the arrangements between them must be such as to ensure that the objectives remain attainable within reasonable cost. This is the customer/contractor approach. The Government reaffirms its intention, announced in the Green Paper, of extending it to all its applied research and development.

6. The customer/contractor relationship is already reflected in the planning and execution of major areas of Government research and development. Later sections of this White Paper outline the organisation in Departments for its application and extension.

7. An essential feature of this approach is provision for continuing discussion and partnership between customers and contractors and with other interested sections of the community. These are to be extended and developed.

8. In practice many of the ideas for research and development to meet the customer's needs come from the scientific staff in the contractor's organisation. But each Department must also have its own central scientific staff, who are responsible for advice on scientific aspects of departmental policy. They will participate fully in the discussions and ensure that the customer is able to take all ideas into account in stating his needs.

9. The Government accepts that contractors will in many cases be better able to contribute effectively to these exchanges if they have some freedom to undertake work which, while being financed by the customers, is not immediately related to a specific programme of work. Lord Rothschild proposed that this need should be met by a general research surcharge. He suggested an average, in money terms, of 10 per cent of a customer's programmes. The Government accepts the proposal in principle, but the degree to which this provision is needed will vary; for example in private industry it is already the practice to include where appropriate an element for private research and development costs in the prices charged to the Government. Departments will make appropriate arrangements in agreement with the Treasury.

10. Decisions about the research and development required to support national economic and social policies must rest with Ministers who have responsibility for those policies. The Government's view, as stated in the White Paper on "The Reorganisation of Central Government" (Cmnd. 4506), is that Government Departments should be organised by reference to the task to be done and the objectives to be met. Applied research and development are necessary to achieve many of the Government's objectives, but they cannot be regarded as forming a distinct function of government. Any attempt to formulate overall objectives for a supposedly collective activity of research and development would lead to confusion. The Government does not therefore accept the recommendation of the Select Committee on Science and Technology in their First and Fourth Reports for the Session 1971–72

that there should be a Minister for Research and Development with his own Vote. But the Government fully recognises that adequate machinery must exist for ensuring co-operation and co-ordination between Departments. The Lord Privy Seal exercises this function at Ministerial level. The Chief Scientific Adviser to the Government has responsibility for interdepartmental co-ordination. He advises Ministers on the scientific and technological aspects of the Government's policies, both domestic and international. He will also be responsible, in future, for advising on the way in which the new arrangements for the management of applied research and development are working.

11. The Government agrees with the Select Committee that at present neither Parliament nor the public is given sufficient information about departmental research and development programmes. The Chief Scientific Adviser has been asked to consider with Departments ways by which more information can be made available. The Government is also considering a number of other recommendations made in the later Reports from the Select Committee.

III. THE ORGANISATION OF RESEARCH AND DEVELOPMENT IN GOVERNMENT DEPARTMENTS

12. Some organisational changes will be needed to bring about the new approach where it has not already been applied in the field of Government research and development. This section outlines the position in those Departments which have already adopted new management approaches and the changes which other Departments are now making.

Ministry of Defence

13. Provision for research and development in the 1972–73 Defence Estimates amounted to £330 million, of which £100 million related to intra-mural and £230 million to extra-mural work. The organisational arrangements for commissioning, carrying out and monitoring this work are already in accordance with the customer/contractor principle. The Ministry's Chief Scientific Adviser co-ordinates from a scientific point of view the needs of the Department as a customer for research and development; the Procurement Executive (set up in 1971 following the implementation of the recommendations in the White Paper on "Government Organisation for Defence Procurement and Civil Aerospace" (Cmnd. 4641)) is the contractor and has to meet the requirements of the three Services for weapons and equipment. Research and development requirements for the Ministry are determined by committees on which the central military, scientific and finance staffs, the Service departments and the Procurement Executive are represented. Within the latter, responsibility for the execution of extra-mural programmes lies with four Systems Controllers and responsibility for the management of the research and development establishments, for the execution of intra-mural work and for all research rests with the Controller Research and Development Establishments and Research. The Procurement Executive is also the contractor for requirements placed on it by customers outside the Ministry of Defence, in particular by the Department of Trade and Industry. These customers formulate their requirements with the assistance of the Executive and pay the costs of meeting them.

Department of Trade and Industry

14. The largest of the three main blocks of applied research and development needed by the Department relates to civil aerospace (costing about £109 million in 1972–73). This is already organised on customer/contractor lines. The Aerospace Group of the Department formulates its research and development objectives in consultation with industry, the Procurement Executive, advisory bodies and other organisations; and then commissions and pays for the work undertaken by its contractor, the Procurement Executive, to meet these objectives.

15. The second main block is reactor and other nuclear research and development carried out by the United Kingdom Atomic Energy Authority (UKAEA), costing about £35 million and £8 million respectively in 1972–73. The Department is considering how the nuclear industry and the electricity generating boards might be more closely involved in the decision-making and financial responsibility for nuclear reactor research and development. It is also discussing with the UKAEA the extent to which the customer/contractor principle can be adopted for their applied nuclear programmes.

16. The third main block of research and development (costing about £26 million in 1972–73) includes the work of the Department's Industrial Research Establishments, the non-nuclear work carried out by the UKAEA, extra-mural contracts which the Department places directly with industry and universities and the funds provided to the Industrial Research Associations. In future responsibility for commissioning much of this work will be channelled through a series of Requirements Boards, on which customer interests in the Department, in industry and elsewhere will be represented and, where appropriate, the contractors. The new Boards will cover a number of fields such as standards and metrology; ship and marine technology; mechanical engineering and machine tools; and chemical and mineral processes and plant.

17. Under the Chief Scientist of the Department the headquarters organisation for the research and development covered by the Requirements Boards will be reorganised into two divisions: a research and development requirements division to serve the customers' interests, and a research and development contractors division to represent the interests of the contractors.

Department of the Environment

18. Soon after the Department of the Environment was formed in the autumn of 1970 it set up a unified research organisation based on the customer/contractor approach to provide co-ordinated research support throughout the Department. This organisation is headed by the Director-General (Research). Under him the Director of Research Requirements assists policy directorates to identify areas for which research is required, to state research requirements clearly to the Directors of the Department's research establishments and other contractors and to formulate research programmes and projects. The Director-General (Research) is also the Chairman of the Research Contractors' Board which manages the execution of the Department's research programmes.

19. These research programmes (estimated at £17 million in 1972–73) are initially discussed and agreed at Research Requirements Committees. Each covers a particular area, is chaired by the appropriate customer within

the Department, and includes representatives of the policy and executive sides of the Department as well as of the Directorate of Research Requirements and of research contractors. Their aim is to ensure that the Department's research and development needs are formulated in a clear and practical way. These Committees report to three Programme Review Committees covering the main policy areas with which the Department is concerned (*i.e.* planning and transportation, building and construction, and environmental pollution and resources). These three Committees, each of which is chaired by the Director-General (Research), examine and make recommendations on the scale and balance of the research programmes in their areas.

Department of Health and Social Security

20. The Department's 1972–73 research and development programme in health and personal social services amounts to £13 million of which £3·7 million is for capital and £9·3 million for current expenditure. All but £0·7 million of the latter is for extra-mural work.

21. A Chief Scientist is to be appointed. He will be helped by a small team of scientists who will work part-time in the Department. They will have widely varying experience in the medical and social sciences which are relevant to the Department's needs in health and personal social services. Their main task will be to help identify areas for which research is required, to ensure that research requirements are stated clearly, and to review the balance of the Department's research and development programme. In addition they will act as a link between the Department and the scientific community so as to develop discussions and partnership between the two.

22. There is a long tradition of working with the Medical Research Council and increasingly close co-operation with the more recently founded Social Science Research Council. These links will be developed and full use will be made of both Research Councils as departmental contractors. In the past the advice of independent scientists has been sought on objectives and priorities for research and development, and the appointment of a Chief Scientist, and the strengthening of the Department's scientific skills, will enable these arrangements to be strengthened.

Ministry of Agriculture, Fisheries and Food and Department of Agriculture and Fisheries for Scotland

23. The major part of Government-funded agricultural and food research and development (excluding fisheries) is carried out in England and Wales by the Agricultural Research Council, whose estimated expenditure in 1972–73 is £21 million. In addition the Ministry has its own laboratories and experimental centres and makes grants for applied research and development to outside organisations, in particular to four food research associations. The Ministry's expenditure on agricultural and food research and development will be about £5 million in 1972–73. In Scotland, agricultural research and development is undertaken by eight research institutes and three agricultural colleges which are financed by grant from the Department of Agriculture and Fisheries for Scotland, estimated at £6 million in 1972–73.

24. A Chief Scientist is to be appointed in the Ministry, supported by two deputies and a small group of other scientists. He will have two major roles. First he will contribute scientific advice to the Ministry on the broad range of policy matters with which it deals. Second he will have a central role in framing and reviewing the Ministry's research and development programmes and in determining the overall order of priorities. Under his chairmanship there will be a Requirements Board whose membership will include the Secretary of the Agricultural Research Council and the Director-General of the Ministry's Agricultural Development and Advisory Service.

25. The Department of Agriculture and Fisheries for Scotland will work closely with the Ministry's Chief Scientist organisation to ensure effective co-ordination of the Government's agricultural research and development programmes, and will look to the newly formed Scottish Agricultural Development Council for co-ordination of development work within Scotland.

26. The two Departments are now discussing with the Agricultural Research Council the establishment of joint consultative machinery to assist them with the consideration of research and development projects, programmes and priorities. It will include scientists, economists, and representatives from the food and agricultural industries and from the policy, scientific and technical sections of the two Departments.

27. New arrangements have already been announced for fisheries research and development—on which Departments are estimated to spend £3·5 million in 1972–73. These arrangements include setting up a Fisheries Research and Development Board and are based on the customer/contractor principle.

Other Departments

28. The organisation of other Departments (including the Home Office, the Department of Employment, the Overseas Development Administration of the Foreign and Commonwealth Office, and the Scottish and Welsh Offices) is being reviewed. Modifications are being introduced, as necessary, to ensure that they are able to fulfil their functions in accordance with the customer/contractor principle, and in keeping with the relatively modest scale of their research and development programmes and the variety of subjects covered.

IV. THE ROLE OF SCIENTISTS IN GOVERNMENT MANAGEMENT AND ADMINISTRATION

29. The changes in organisation outlined in the previous section will enable scientists both inside and outside Government to play a larger role in working out departmental needs and in policy formulation. But more than this is needed.

30. The great majority of qualified scientists who enter Government service do so because they want a scientific career. In consequence most of them are engaged on research and development in Government establishments. As their careers progress, scientists (and indeed the other professions) become

more deeply involved in management and administration because, in running research groups or administering development projects, they are concerned with decisions on priorities and the allocation of resources, and participating in policy decisions. For these purposes they must add managerial and administrative skills to the primary requirement of scientific ability. But in addition the Government believes more people with scientific and other professional qualifications must be encouraged and given opportunities to move into posts which are primarily concerned with general policy or management. To do this a new programme of training and career development is already going forward.

31. There have been three main obstacles to moving scientists into management and administration. First, the belief that they do not want to do it; second, uncertainty about their ability to become effective managers or administrators; and third, uncertainty on the part of the scientists themselves that management really wants them to move into management and administration.

32. The first view has often been encountered not least among scientists. But attitudes change and a recently completed study showed that a high proportion of young scientific Civil Servants were interested in moving into management or administration in their early 30s.

33. It is more difficult to produce facts on the second viewpoint. But the success of those scientists who have in the past transferred to the old Administrative Class suggests that the transition to management and administration can be made successfully.

34. The third obstacle is the key to the problem. Until comparatively recently the young scientist had to take the initiative by applying for a transfer and in so doing often had to leave behind a successful career in science for the uncertainties of administration. Management provided the opportunity but did not do enough to encourage such moves. Furthermore, senior scientists were not unnaturally reluctant to see some of their best men moving into management and administration.

35. Again attitudes have changed in recent years. Young scientists are now encouraged to make such moves and can be confident that their previous experience will be regarded as a positive advantage in management and administration. For their part scientists need to acquire further skills in management and administration.

36. To help this process the Civil Service College started courses last year in management training for scientific officers and other young graduate specialists early in their careers. These are intended to provide a broader background together with the initial skills needed to manage small research groups. Those who show a marked aptitude for management or administration will be selected, starting this year, for further special training at the College. It is then intended that, following this course and while at a still relatively young age, they should spend two years at headquarters. This will further broaden their experience; test their interest in, and potential for management and administration; and better fit them for whatever posts they fill later in their careers. At this stage some may wish to transfer to the

Administration Group and make their career in general management and administration, but most will probably want to return to scientific work. In future, Directors and Deputy Directors of establishments will usually have had some previous experience at headquarters.

37. This programme of training and career development should equip scientists and other specialists to compete for those posts at Under-Secretary level and above where there is a particular need for able administrators with a specialist background. Equally, they will be better able to fill posts at lower levels which are open to all suitable individuals, irrespective of their background.

38. So far as the Administration Group is concerned, the number of recruits with qualifications in science, mathematics or engineering has been rather low. There is however an encouraging increase in the number of Administration Trainees with degrees in science, mathematics or engineering: in both 1970 and 1971 12 per cent of the successful external candidates had such degrees. To some extent the movement of scientists into administration has become concealed by the increasing use of posts which are open to all. Nevertheless, the Government agrees that the Administration Group would be strengthened if it included more people with a scientific or other specialist background. To help achieve this a special competition is now being held for transfer to the Administration Group at Principal level.

39. Mobility within the Civil Service is not the only problem. The Government believes that it would be in the public interest if there were a greater interchange of scientific talent between the Civil Service on the one hand and the Research Councils, universities and industry on the other. This would benefit all those concerned, including the scientists themselves. Some interchange already occurs, mainly with Research Councils, but the Government believes it should be increased significantly and extended to the other areas. This can only be done with the co-operation of the other employers involved. The Government intends, therefore, to set up a small high-level task force drawn from the Civil Service, Research Councils, universities and industry charged with studying the problems involved and with working out and overseeing a scheme to develop such interchanges.

40. Most scientists working in Government will continue, and will wish to continue, to make their main contribution through laboratory and establishment-based research and development programmes. But the action already in hand, and now to be taken, will increase the opportunities for scientists (and other specialists) to move into management and to play an effective and important part in policy-making.

41. A very important feature of this policy is to attract some of the best young specialists for training and experience in management and administration. If standards are lowered the whole scheme would be discredited. By concentrating on the most able, there is a good prospect that the great majority of candidates will make the transition successfully.

V. THE RESEARCH COUNCILS

42. As well as financing applied research and development to meet departmental objectives, the Government also supports scientific research through the five Research Councils and the University Grants Committee. The purpose of this research is to develop the sciences as such, to maintain a fundamental capacity for research, and to support higher education.

43. This research is sponsored by the Secretary of State for Education and Science and the funds for the Research Councils are provided through the science budget of the Department of Education and Science. Much of this research is in subjects for which Government Departments do not have the necessary facilities. The report of Sir Frederick Dainton's working group drew attention to the advantages of the Research Council system. The Government has already said that it proposes to retain the system of Research Councils responsible to the Secretary of State for Education and Science. The Government also accepts that, in future, Departments should be more closely associated in framing the Councils' programmes. In addition, Departments are to be provided with funds to commission applied research in some areas covered by the Research Councils.

44. Three consequences follow. First, the Council for Scientific Policy will need to be reconstituted; second, Departments will be directly represented on the Research Councils; third, some of the funds at present provided from the science budget of the Department of Education and Science will be transferred to customer Departments and brought within the scope of the customer/contractor principle.

The reconstituted Council for Scientific Policy

45. The Government recognises the valuable work that has been done by the many eminent scientists who have served on the Council for Scientific Policy. It does not intend to interpose any executive statutory body between the Secretary of State for Education and Science and the Research Councils. However, to advise in future on the allocation of the science budget of the Department of Education and Science between the Research Councils and other bodies and on the structure of the Research Council system the Secretary of State will, in the autumn, replace the existing Council for Scientific Policy with a new advisory body. Its membership will include the Chairman or Secretary of each of the five Research Councils, the Chairman of the University Grants Committee, senior scientists from Departments with a major interest in the work of the Research Councils, a representative of the Chief Scientific Adviser to the Government, and independent members drawn from the universities, industry and the Royal Society of London. One of the independent members will be appointed as the part-time Chairman.

Membership of Research Councils

46. Under the Royal Charters the Secretary of State for Education and Science, in consultation as necessary with the President of the Royal Society, appoints the Chairman and (except for the Agricultural Research Council) all the members of each Council. In future the Secretary of State will also agree

these appointments with those Ministerial colleagues principally concerned: the appointment of certain members of the Agricultural Research Council by the agriculture Ministers will continue.

47. Government Departments with a substantial interest in the work of a Research Council will provide full members and not, as is usual at present, assessors. The Government will discuss with the Councils any necessary amendments to their Charters.

Future financing of Research Councils

48. In future, part of the funds provided by the Government for three of the Research Councils, the Agricultural Research Council (ARC), the Medical Research Council (MRC) and Natural Environment Research Council (NERC) will become the responsibility of customer Departments to help meet their needs for commissioned research. During the next three years funds rising from £10 million in 1973–74 to £15 million in 1974–75 and to a final total of £20 million in 1975–76 plus the specific sums referred to in paragraphs 55 and 56 will be transferred from the science budget of the Department of Education and Science to the Votes of customer Departments. For ease of comparison with the figures used in Lord Rothschild's report, on which the public debate has been conducted, all the figures are in terms of constant 1971–72 prices. The actual sums which will be transferred in the three years will be increased in proportion to the planned growth in the science budget.

49. The reconstituted Council for Scientific Policy will advise the Secretary of State for Education and Science on the allocation of the science budget of her Department. The Council will know and be able to take into account the size and nature of the work to be commissioned by customer Departments. Its recommendations will then be considered by the Government in planning future totals of public expenditure on research and development. It will be part of the Government's job to keep under review the effect of the new system on the Councils and, indirectly, on the universities. When the transfers set out below have been completed in 1975–76 Ministers intend that there should be a period of stability before any further review is made.

50. The details are as follows:

£ million—at 1971–72 prices

	Total previously financed from science budget of Department of Education and Science	*Amounts to be transferred from science budget to Votes of customer Departments*		
	1971–72	*1973–74*	*1974–75*	*1975–76*
ARC ...	18·7	5·0	7·50	10·0
MRC ...	22·4	2·75	4·25	5·50
NERC ...	15·3	2·25	3·25	4·50
	56·4	10·0	15·0	20·0

Of the £20 million total transfer, £10·5 million will go to the Ministry of Agriculture, Fisheries and Food, £5 million to the Department of Health

and Social Security (to be shared with the Scottish Home and Health Department), £2·5 million to the Department of Trade and Industry, £1·5 million to the Department of the Environment and £0·5 million to the Department of Employment. Proportional sums will go to these Departments in the years 1973–74 and 1974–75. The Government will be putting further details on the allocation of funds between customer Departments to the Councils concerned.

51. No conditions will be placed on the use of the money transferred to customer Departments, but the expectation is that it will be spent to commission applied research work from the Research Councils. Nor will any transfers be made until the customer Departments have established their central scientific staffs.

52. Customer Departments will become accountable for the sums transferred to their Votes and it will be for their Accounting Officers to justify the sums paid to the Councils as contractors and to be satisfied about the programmes of work that make up the total payment. Unlike the arrangements for funding the science budget of the Department of Education and Science the money paid by customer Departments will not take the form of grants-in-aid, since these would be inappropriate for expenditure on commissioned projects. Expenditure on new capital facilities will be met by customer Departments to the extent that the facilities are related to their requirements.

53. It will be necessary for the Research Councils and customer Departments to work out jointly arrangements to cover both the terms under which Departments will commission work and the responsibilities of the Councils in undertaking the work. Final responsibility for defining the objectives of commissioned research must rest with the Department concerned, although the Councils will be entitled to refuse work if they have good grounds; for example, if the project were not scientifically feasible or if adequate resources were not available. Once accepted, it will be for a Council to decide on the detailed management of commissioned research, though Departments will need to be satisfied before committing funds that a project has been effectively planned and that arrangements exist for systematic surveillance and review. A Council may normally expect freedom to publish and communicate information about commissioned work, although there may be circumstances (involving, for example, national or commercial security) when customer Departments must reserve their position on publication.

54. The Government believes that partnership and co-operation between Departments and the Research Councils is an essential feature of this approach and that the new arrangements must be designed to ensure that these aims are met. The Government attaches great importance to the support which all the Research Councils give to the universities and the new arrangements are designed to ensure that this should continue unimpeded.

The Nature Conservancy, the Soil Survey of England and Wales and the Institute of Hydrology

55. The Nature Conservancy is at present part of the Natural Environment Research Council, with a special status under Article 7 of the Council's Charter. More than half of its effort goes directly into the management of

national nature reserves and advisory, educational and protective work on wild life conservation. These activities connect with other measures to control and protect the countryside. They would be more appropriately funded through an environmental programme budget than a Research Council budget. But the rest of the Conservancy's effort goes into research. Part is directly applied to the solution of conservation problems. A major part, however, contributes to the general programme of the Natural Environment Research Council which would be unable without it to fulfil its charter responsibilities for ecological research. There is therefore a duality in the Nature Conservancy in its present form, which has caused stresses difficult to resolve within the present framework. The Government believes that, if the original purposes of setting up a Nature Conservancy in 1949 and of setting up a Research Council for the environmental sciences in 1965 are both to be fulfilled, it is necessary to make a fresh start. Accordingly, the funds for managing the nature reserves (about £1·1 million on the 1971–72 figures) and for commissioning applied research connected with this (about £0·3 million) will be transferred from the science budget of the Department of Education and Science to the Department of the Environment from the beginning of 1973–74. Following the necessary legislation, the Nature Conservancy committee of the Natural Environment Research Council will be abolished and a new Nature Conservancy Council established by the Secretary of State for the Environment, to be appointed in consultation with the Secretaries of State for Scotland and Wales. The nature reserves and the staff to run them will become the responsibility of the new Nature Conservancy Council. The balance of the funds for the Nature Conservancy (about £0·7 million) will remain with the Natural Environment Research Council, together with laboratories and relevant staff. Machinery will be established to enable the new Nature Conservancy Council and the Natural Environment Research Council to co-operate fully on matters of joint interest and concern, including the use of each other's facilities. Discussions with all the parties concerned, including the Staff Associations, will take place as soon as possible, so that effective working relationships can be established, particularly for the interim period before the new arrangements can be brought fully into operation.

56. The Soil Survey of England and Wales will continue to be a Research Council responsibility, but the funds for its financing (£0·25 million on the 1971–72 figures) will be transferred to the Ministry of Agriculture, Fisheries and Food from the Department of Education and Science science budget as from 1973–74.

57. There will be no change in the status of the Institute of Hydrology within the Natural Environment Research Council, though some applied research may in future be funded by customer Departments. When final decisions have been taken on future arrangements for the management of the country's water resources, it will also be necessary to work out a comprehensive research programme, taking account of the whole capability in this area of which the Institute is an important part.

The Science and Social Science Research Councils

58. These two Councils are in a different position from the other three. The Social Science Research Council is a young organisation with a small budget (£4·1 million in 1971–72), about half of which is devoted to the support of post-graduate students in institutions of higher education. No change is proposed in the present arrangements for financing the work of the Social Science Research Council. Some Departments may, in future, want to place commissioned research with the Council; this will be new and additional work.

59. The Science Research Council is a large body which absorbs much the biggest share (£55·7 million in 1971–72) of the science budget of the Department of Education and Science, and, apart from contributions to international scientific organisations such as the European Organisation for Nuclear Research and the European Space Research Organisation, its primary purpose is to sustain standards of education and research in the universities. Its funds are, therefore, largely spent on university research grants and on the maintenance of large-scale equipment and facilities for the use of university researchers and on post-graduate student support. No changes are to be made in the funding arrangements for the Science Research Council, but a study is being made of possible overlaps between the research which it finances and other research work commissioned by the Department of Trade and Industry or the Department of the Environment.

The Royal Societies

60. At present, the grants-in-aid to the Royal Society of London and the Royal Society of Edinburgh are paid by the Department of Education and Science. In future, to meet the wishes of the two Royal Societies, the grant to the Royal Society of London will continue to be paid by the Department of Education and Science, but the Royal Society of Edinburgh will receive its grant-in-aid from the Scottish Office.

VI. THE FUTURE

61. The decisions announced in this White Paper deal with the new arrangements for commissioning Government applied research and development, with the future role of the Research Councils, and with the use of scientific manpower in the Civil Service. The Government believes that the clearer definition of the responsibilities of the parties involved in applied research and development, and the more precise designation of the future role of the Research Councils, will help to define the scientific problems underlying national needs, and will provide a way to determine what research and development programmes are worthwhile, how much should be spent on them, and how the results can be fully exploited to the benefit of the community as a whole. The essence of this approach is the need for better discussions and partnership between all involved in these complex and difficult processes whether in Government or outside it. The new framework provides a partnership within which science will have more influence on the Government's central policy-making activities than before, and which will contribute more directly and more effectively to the task of making the best use of science and technology for the needs of the community as a whole.

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