



House of Commons
Science and Technology
Committee

Research Council Institutes

Fourth Report of Session 2006–07

Volume I



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**Research Council
Institutes**

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Report, together with formal minutes

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The Science and Technology Committee

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Summary

Research Council Institutes (RCIs) form an important part of the UK science base. They make a unique contribution in terms of providing national capacity and access to facilities and in developing multidisciplinary science driven by a clearly-defined mission. The RCIs often come into their own at times of emergency due to the ability of their Directors to respond to changing demands, especially from the Government.

RCIs vary widely in their structure, governance, facilities, size and objectives. It is right that they should be encouraged to work closely with universities and other research partners and in some cases they benefit from even closer integration, but it is not necessary for all RCIs to be wholly embedded within HEIs.

In order to pursue their missions, RCIs need guaranteed, long-term core funding, which they may then top up with other grants and commissioned research.

There needs to be more co-ordination of policy needs between those who have a direct interest in the work and health of RCIs and also greater co-ordination of policy towards RCIs on the part of the Government and the Research Councils and more responsibility taken for their sustainability.

In particular, Defra must address the difficulties caused by its failure to agree on the RIPSS agenda and by its decisions and indecisions on funding and research priorities.

Restructuring of institutes is inevitable and can be desirable but it can also be problematic and needs to be handled sensitively. We discuss the experience of three current restructuring projects—those involving the Roslin Institute, the Centre for Ecology and Hydrology and the National Institute for Medical Research—and recommend improvements to the process.

Our overall conclusion is that OSI needs to take on a greater role in this area. We recommend that the OSI monitor the state of national research facilities and the skills base within the RCI sector and that it examine mechanisms for identifying and providing guaranteed funding for nationally important datasets and long-term monitoring activities. We also propose that the OSI should be given formal responsibility for improving dialogue between Government departments and the RCI sector and the Research Councils and for intervening where departments are not fulfilling their responsibilities under RIPSS.

1 Introduction

Research Council Institutes

1. The Research Councils are the largest public investors in fundamental research in the UK. In 2007–08 they will have a budget of £2.8 billion a year to fund research and training in universities and research centres. In addition to awarding grants to universities, most of the eight Research Councils invest in their own institutes, centres and units, collectively known as Research Council Institutes (RCIs). Evidence submitted by the Research Councils at the start of this inquiry encompassed some 130 such institutes, commanding an investment by the Councils in direct research of around £440 m (2004–05).¹ These vary greatly in size, structure and purpose. Some have been established for many years; others come into existence for a set period to meet a specific research need. Most are owned by one particular Research Council but others have cross-Council ownership or are partly owned by universities. The range of work undertaken by the RCIs is equally wide and includes long-term monitoring as well as critical pieces of fundamental research and responses to national emergencies. However, what the RCIs share is a clearly defined purpose which allows them to make a unique contribution to the research base of the UK.

2. RCIs are subject to regular monitoring by their parent Councils to ensure that they are meeting expectations and are still relevant to the science strategy which the Council wishes to follow. In many cases, this process is a welcome one to the institute involved as it involves close self-examination of their own operations and purposes. However, the Council's findings might lead to minor or major restructuring of an institute; in extreme cases, such as that of the Silsoe Institute, they might lead to closure, and as might be expected, the impact of Research Council decisions on the future of their RCIs can become a matter of some controversy and concern within the scientific community and beyond. The highly public arguments over the Medical Research Council's proposals for one of the largest of all RCIs, the National Institute of Medical Research (NIMR) in Mill Hill, North London, serve as example of the emotions that can be aroused when restructuring is strongly opposed.

3. Given their close relationship with Research Councils, it is perhaps not surprising that RCIs play a significant and special part in the provision of science and research capability to Government. Some institutes traditionally receive the majority of their funding from a Government department, even exceeding their grants from their parent Council, whereas others provide specific services towards the development or delivery of public policy. In return, RCIs have been counted among public sector research establishments (PSREs) and included in exercises by the Government aimed at improving the sustainability of the UK's public research base. It is therefore a matter of concern that an official survey of PSREs in summer 2006 concluded that there were "serious concerns" about a high proportion of institutes within this sector.²

1 Ev 111

2 OSI: Comments on the first annual monitoring process of the RIPPS implementation project by JM Consulting, para 14

4. There is a school of thought that RCIs are no longer the most effective way of conducting basic research. For example, on 25 January 2006 during Science Question Time, the then Minister for Science, Lord Sainsbury put forward the contention that “there is a well-considered view internationally that separate research institutes have the disadvantage that they become obviously specialised science institutions and in today’s multi-disciplinary world, basic research increasingly should be done in a multi-disciplinary environment like universities”.³ This brings into question the whole ethos of RCIs and therefore their survival within the UK’s research base. It was these factors which led us to conduct an inquiry into RCIs as the second in our series of thematic examinations of the work of the Research Councils.⁴

Our inquiry

5. On 22 March 2006 we announced an inquiry into RCIs, focussing upon the Research Councils’ strategies for providing support to their institutes and centres. We invited evidence on the following points:

- The role of RCIs in maintaining the UK research and skills base;
- The balance between Research Council expenditure on RCIs and on grant funding;
- The rationale behind the different approaches adopted by the Research Councils to supporting RCIs and the case for greater harmonisation of practice;
- The role of Research Councils UK in monitoring and improving the effectiveness of Research Councils’ support for RCIs;
- The role of the Office of Science and Technology (now Office of Science and Innovation) in providing support for RCIs; and
- A review of progress on current reorganisations involving RCIs, including the Centre for Ecology and Hydrology, the National Institute for Medical Research and the Roslin Institute.

We received memoranda from 30 different organisations and individuals in response to this general call and to later specific requests for written evidence, and we thank all those who contributed to the inquiry in this way.

6. We also held five oral evidence sessions, hearing from:

- Professor Julia Goodfellow CBE, Chief Executive, Biotechnology and Biological Sciences Research Council (BBSRC), Professor Colin Blakemore, Chief Executive, Medical Research Council (MRC) and Professor Alan Thorpe, Chief Executive, Natural Environment Research Council (NERC)

3 Q 60, Oral evidence taken before the Committee on 25 January 2006, HC (2005-06) 490-ii. This transcript is currently available at www.parliament.uk/s&tcom and will be published with the Committee’s OSi Scrutiny Report 2006.

4 The Science and Technology Committee decided at the start of this Parliament to adopt a thematic approach in order to fulfil our remit to scrutinize the eight Research Councils. Instead of examining each one individually, we undertook to identify key issues which affect all of the Councils to some degree and to hold a series of inquiries into those issues. The first of these was our Report on Research Council Support for Knowledge Transfer, HC (2005-06) 995-I, published in June 2006.

- Professor Martin Shirley, Director, Institute for Animal Health (IAH), Professor Ian Crute, Director, Rothamsted Research and Professor Chris Pollock, Director, Institute for Grassland and Environmental Research (IGER); Rt Hon Lord Rooker, Minister of State for Sustainable Farming and Food and Professor Howard Dalton, Chief Scientific Adviser, Department for Environment, Food and Rural Affairs (Defra)
- Professor Patricia Nuttall, Centre for Ecology and Hydrology (CEH) and Professor Mike Hulme, Tyndall Centre for Climate Change Research
- Dr Anthony Holder, Head of Parasitology at NIMR and President of the Local Association of the University and College Union and Ms Eileen Clark, Amicus Representative and Chair of local TUS, NIMR; Professor Colin Blakemore, Chief Executive, Sir John Chisholm, Chairman, and Mr Nick Winterton, Executive Director, MRC; Professor Sir Keith O’Nions, Director General of Science and Innovation, and Mr John Neilson, Director Research Base, Office of Science and Innovation (OSI)
- Professor Malcolm Grant CBE, President and Provost, and Professor Mike Spyer, Vice-Provost (Biomedicine), University College London

We are grateful to all those who gave oral evidence during this inquiry. Transcripts of the oral evidence sessions are published alongside this Report, together with written evidence submitted to the inquiry.

7. In view of the large number of RCIs and their location around all parts of the country, we decided that individual members should visit particular institutes and report back to the Committee. Visits were made in this way to John Innes Centre, Tyndall Centre for Climate Change, the Centre for Polar Observation and Modelling, the MRC Human Genetics Unit, the Proudman Oceanographic Laboratory, the British Antarctic Survey and the National Institute for Medical Research. Our thanks go to those who arranged and participated in these highly informative visits to some very impressive institutes.

Relevant reports

8. Two recent reports by the OSI are central to this inquiry and are referred to at various points throughout our Report: the RIPSS report and the Costigan review.

RIPSS Report

9. The RIPSS study was commissioned in 2005 by the OSI to examine how to improve the sustainability and strategic coherence of the £1.6 billion non-university public research sector. The full title of the RIPSS report, published in March 2006, is *PSREs and the science base: a policy for sustainable trading and joint strategic investment in PSRE infrastructure. Final Report of the Research Council Institute and Public Sector Research Establishment Sustainability Study (RIPSS) Steering Group*. The report found that the publicly-funded research system is crucial to the current and future interests of the nation and that PSREs (including RCIs) exist because the research capacity they provide is either specialist, or of strategic or policy importance. It made twelve recommendations aimed at Government

departments, strategic partners and RCIs themselves as a part of an agenda to shore up the sustainability of the sector. The OSI completed its first annual survey of sustainability in PSREs this summer, intending this to provide a baseline against which to measure future progress.

Costigan review

10. The second report relevant to this inquiry is the light-touch review of the governance of Research Council Institutes carried out by Gavin Costigan, Deputy Director of Research Councils in the Office of Science and Technology, over the period July 2005 – January 2006. The Review concluded that there was not a strong case for introducing a single governance structure for the Institutes, but that improvements could be made in some cases (with particular criticism of BBSRC RCI governance). The Research Councils are now in the process of putting the Costigan recommendations into practice. For example, NERC is examining alternative governance models for the British Geological Survey. The Council which was criticised most thoroughly by Costigan—the BBSRC—responded by asking Professor Sir Brian Follett FRS to make further recommendations to the BBSRC Council “on the best way to improve both the governance per se and to take account of the sustainability problems related to the current size of institutes”.⁵ Professor Goodfellow of BBSRC told us that “We are certainly going away from one size fits all models and we will be looking at the appropriate governance for the science and the relationships they may have so if they wish to move closer to the university they may well move away from BBSRC and from the current model.”⁶ We have not examined this issue in any detail, given the recent date of the Costigan report, but we will be interested to track the impact of the report on the development of new governance structures within the RCI sector. **We readily agree, however, that there should be no blueprint for governance of RCIs simply because of their status and that appropriate arrangements should be tailor-made in each case.**

Our Report

11. This Report is concerned with the scientific capability represented by the RCIs. Throughout our inquiry, our primary concern has been the sustainability of the work undertaken by and the skills available in RCIs in terms of the national science base. Closely linked with this is our search for evidence of a co-ordinated strategy towards RCIs on the part of all stakeholders, including Government departments, Research Councils and other users of the science of this part of the research base since if RCIs are to deliver what is required of them then the support mechanisms must be appropriate and effective. We are aware that there is a sense of crisis in some, but by no means all, parts of the sector caused by abrupt and sustained changes in Government funding levels. There are also far-reaching reform plans for individual institutes underway, and a wider questioning of the need for RCIs as part of the UK science base which have added to the pressure on RCIs to justify their existence. We support the view that institutions may have to change to meet the new demands of 21st century science. We are concerned that when this happens, it should

5 Ev 120

6 Q 94

represent an enhancement of UK science, rather than a loss. These considerations shape our analysis and recommendations as set out in this Report.

Structure of the Report

12. In the following chapters of this Report, we look first at what RCIs are intended to do and how they compare with the university sector. Next we examine their funding arrangements, both in relation to Research Council funding and other public money from government departments, including the key question of who should pay for nationally-important basic research and facilities and for research intended to underpin policy development. In Chapter 4, we move on to how the strategy of individual RCIs is decided and influenced, and how co-ordination in this area could be improved. Chapter 5 sets out the difficulties experienced by several RCIs in their relationship with one particular department, Defra. This issue was raised by several written submissions to our inquiry and became the focus of two evidence sessions, as well as furnishing examples of issues which could have a wider application. Chapter 6 contains our observations and recommendations on three current restructuring projects which present very different experiences and outcomes. Chapter 7 makes proposals for enhancing the oversight role of OSI in relation to RCIs, and chapter 8 sets out our general conclusions arising from this inquiry.

Terminology

13. RCIs are known by a variety of names. The Arts and Humanities Research Council (AHRC) and Economic and Social Research Council (ESRC) have research centres; BBSRC uses the collective term “institutes”; the MRC has institutes and units, also known as its “Research Centres”; NERC has wholly-owned centres and surveys and also collaborative centres; and PPARC refers to its bodies as institutes, although none of them includes this term in their titles. Nevertheless, despite these differences, the term Research Council Institute or RCI is readily understood by all interested parties to include all such establishments, and we have used it in such an encompassing fashion throughout this Report.

2 Role of RCIs in UK Research

Introduction

14. The OSI's quinquennial review of the Grant Awarding Research Councils in 2001 contained a brief analysis of the role played by the Research Councils as the providers of research through their RCIs. It concluded that there were "sound policy reasons for establishing and retaining" institutes but that "the strategic case for institutes needs .. to be clearly justified in each case".⁷ The review suggested criteria which define the variety of purposes for institutes:

Criteria which define the variety of purposes for institutes:

- i. provide a national capability and source of advice to Government;
- ii. create a critical mass of research capability, effort and expertise; to provide enhanced research productivity, visibility, exploitability; or rapidly to strengthen an underdeveloped area;
- iii. foster co-ordinated and co-operative multidisciplinary approaches to a research area;
- iv. encourage a long-term research vision and strategy;
- v. enable long-term survey, monitoring and data management activities underpinned by research;
- vi. provide a full-time research-centred environment;
- vii. open up scientific career paths and opportunities which may not be available within university or faculty structures;
- viii. develop and provide facilities and services; and
- ix. allow greater investment in capital equipment and the skills of support staff, because of the more stable environment.⁸

The Research Councils accepted these criteria at the time and described them in evidence to us as "a useful framework for describing the role of the RCIs and how they contribute to the UK research and skills base", although the Councils prefaced this with the caveat that not all the criteria would necessarily apply to all types of RCI, in particular those embedded

7 Quinquennial Review of the Grant Awarding Research Councils, OSI, 2001, para 3.9, 3.11, <http://www.rcuk.ac.uk/cmsweb/downloads/rcuk/publications/qqr-s2.pdf>

8 Ibid para 3.11

in universities with university-employed staff.⁹ With this caution in mind, we find these criteria a useful starting point for examining the role of RCIs.

Contribution to the research base

15. The range of research areas covered by RCIs across all Research Councils is quite striking, including as it does the British Antarctic Survey, the Institute for Animal Health, the Laboratory of Molecular Biology and the UK Astronomy Technology Centre, as well as a large number of centres specialising in economics or the arts and humanities.¹⁰ What they have in common is that they have been established to fulfil a specific, clearly identified need and that they have, or should have, a strongly-defined research mission. Evidence from one RCI, Rothamsted Research, described this as “the mission-driven, programme-focussed nature of institute research whose strategy is long term and well defined in pursuit of goals that are linked to users’ needs in a variety of sectors.”¹¹ The type of mission can vary. The Biosciences Federation usefully divided RCIs into two camps: first, those whose mission is intended to deliver exceptionally high quality science within internationally competitive fields, which “has the potential to contribute to the health and wealth of the United Kingdom”; and, second, those which aim at ensuring that “the UK has the facilities, skills and expertise to work in a particular area”.¹² These latter institutes may not have the glamour of the first category but both can be characterised as performing a unique role in the UK research base, a term that we heard again and again throughout this inquiry.

16. What sets RCIs apart from other research bodies is a structure which encourages the development of a critical mass of expertise in their given areas. Because the RCIs have core funding, guaranteed over a period, and they also have the power to develop their own strategy within the terms set out by their parent Council, individual institutes are able to take a long term and innovative approach to their work programmes. Moreover, as dedicated research centres, they foster a culture in which the focus is on furthering knowledge and developing expertise, rather than on teaching or adapting their programmes to suit short-term research grants. As one university told us, RCIs “should provide an environment for long-term, high quality research projects that allow the best people to concentrate on their research”.¹³ Similarly, the MRC regarded RCIs as “flag ship, leading entities in the UK, with a critical mass of individuals able to focus full-time on vital long term research [...] acting as magnets for high-quality people in the field”.¹⁴

17. A further advantage of the RCI structure is that the institutes are able to maintain expertise in unfashionable areas of study. This can mean both disciplines which are no longer so attractive to students and hence to university departments, and basic strategic science which underpins more exciting research projects. In the first case, Defra identified “the provision of continuity and alignment of research with strategic priorities without necessarily following scientific fashion” as “one of the important strengths of the RCIs” and

9 Ev 110

10 See evidence 114–7, 124, 128–30, 136–7, 143, 150–2 for a full list of RCIs

11 Ev 89

12 Ev 99

13 Ev 81

14 Ev 132

a major reason why the institutes are a “crucial component of the UK science and engineering base”.¹⁵ BBSRC institutes in particular presented their credentials as sustaining “UK scientific expertise in some nationally important scientific disciplines that have been eroded in the UK academic sector under the influence of universities’ need to satisfy a student-led market economy”.¹⁶ In the case of basic science, this work includes long-term environmental monitoring, surveys and maintenance of databases, such as the 160 years old dataset held at Rothamsted Research.¹⁷ Although in itself it may not represent cutting-edge science, the information generated through such work is vital to furthering knowledge in many areas. The Chief Executive of CEH, Professor Thorpe, told us that their “core business is in monitoring and survey and in undertaking large-scale experiments”, pointing to the farm-scale trials for genetically modified crops as a key example of how important this work could be.¹⁸ It should be noted that the institutes also have skills and vast experience in applied research based on these surveys. In the environmental field, the Environment Agency regarded “the ability to place the monitoring data in context through experimental work and to integrate data from different sources to produce a holistic view of the environment” as “equally important” to gathering the data in the first place.¹⁹

18. The aspect of the RCI system highlighted by RCUK as “one feature that all [institutes] share” was “their potential to foster multi- and inter-disciplinary research”.²⁰ RCUK explained that this derived from their distinctive relationship with the Research Councils: “the provision of stable, longer-term funding signals a strategic commitment to a particular set of research challenges and gives research teams the time and access to skills and resources to build collaborations and the flexibility and freedom to pursue novel ideas”.²¹ Evidence from individual Research Councils and from people who worked in the institutes themselves supported this contention. For example, the Chief Executive of NERC thought that his institutes were “hot-beds of multi-disciplinarity and inter-disciplinarity”: “all our institutes have actually quite a mixture of disciplines because of their mission and strategic nature of environmental science, so nearly all of them will have physicists, chemists, biologists, mathematicians within each institute”.²² In the context of medical sciences, Dr Robin Lovell-Badge from the MRC-owned NIMR thought that “one reason why multidisciplinary institutes, such as the NIMR, are successful is the cross-fertilisation of ideas and techniques that occur between scientists working on often very different topics.”²³ He explained that “this requires that there be no barriers which is easy to achieve in an institute with one main common source of funding and a flat management structure”.²⁴ Professor Goodfellow, Chief Executive of BBSRC, put forward a similar argument that the institutes were able to excel in multidisciplinary science “because there is

15 Ev 171

16 Ev 154

17 Ev 84

18 Q 3

19 Ev 92

20 Ev 110

21 Ibid

22 Q 39

23 Ev 87

24 Ibid

usually a strategic objective for them [and they] can bring any discipline they want to bear on it and they appoint what staff they want, unlike a university department where if you are in a specific discipline you need to be able to teach that discipline”.²⁵

19. This emphasis on fostering multidisciplinary can add to the value of particular institutes working in specialised, underpopulated areas, as in the case of Rothamsted Research whose director told us that “certainly within the UK, possibly the world, we are the one place where the mathematical, biological and physical sciences are integrated in support of ... farmed land.”²⁶ It can also be the driver behind the very establishment of an institute. For example, the concept of multi-disciplinarity is at the heart of the remit of centres like the Tyndall Centre for Climate Change Research, which is the offspring of three Research Councils.

Contribution to skills and training

20. As we have seen above, part of the justification for RCIs is that they should “provide a full-time research-centred environment”.²⁷ Most of the organisations and individuals who gave evidence were keen to stress the advantages of this for skills and training. For example, for those employed by the RCIs, there is the opportunity to work in front-line research. Guy Dodson, formerly of NIMR, compared this to universities where “research scientists too often face a crushing load of teaching and administration that forces them into management of a research team rather than working at a bench”.²⁸ RCIs also offer staff and students unique facilities and often unique locations in which to pursue particular lines of scientific inquiry. The Chief Executive of NERC argued that students and researchers found research centres “really good places to work”²⁹ and cited the example of the British Antarctic Survey which gave students the chance to use “unique facilities” and to “work in an environment where there is a strong number of people working in the same research area”.³⁰ Similarly, the directors of BBSRC institutes were keen to stress the value of training within RCIs, which they argued arose from the structure of the research environment as well as from the subject under study. The director of Rothamsted Research considered that “we are one of the few places where people can get firm postgraduate training: field-based integrated into laboratory-based training in the postgraduate context” and that “we have a training environment and ... a long-term perspective that gives people the opportunity to develop worthwhile and far-reaching scientific careers”.³¹

21. From a national perspective, the RCIs perform a vital role in maintaining the skills base in certain key areas by attracting students and postgraduates into their institutes. The Biosciences Federation identified a “significant role [for the RCIs] in providing training for PhD students and for developing postdocs due to long-term research in unfashionable

25 Q 38

26 Q 114

27 Quinquennial Review of the Grant Awarding Research Councils, OSI, 2001, para 3.11, vi, <http://www.rcuk.ac.uk/cmsweb/downloads/rcuk/publications/qqr-s2.pdf>

28 Ev 193

29 Q 64

30 Ibid

31 Q 114, Q 139

disciplines”.³² They saw this role as increasing in importance in the context of “retaining and developing the UK skills base in many aspects of applied biology”.³³ The Research Councils also emphasised the contribution made by their centres to the national skills base by hosting students. PPARC, for instance, told us that 300 PhD students had used its RCIs in the last three years, benefiting from access to PPARC’s facilities and from the opportunity “to work with scientists from other countries”.³⁴

22. We have received some criticism of the training provided by RCIs, which centres upon their size, compared to the larger universities, and to their specialised nature. The University of Leeds considered that “RCIs do not have the infrastructure of large, research-led faculties within universities to train at [PhD] level where there are large numbers of PhD students, MSc and Undergraduate modules on offer and where systems have been put in place to ensure the generic skills training of PhD students”.³⁵ The University also pointed out that “RCIs tend to have small student cohorts, thereby students miss out to some degree on important interactions”.³⁶ When this was put to those responsible for training in RCIs, we were reminded that much of their training was done in conjunction with universities. Professor Goodfellow, Chief Executive of BBSRC, explained that their RCIs had joint training programmes with universities, and the Director of one of them, the Institute for Grassland and Environmental Research, told us bluntly that “we cannot do training unless we are linked to universities”.³⁷ The memoranda submitted by the Research Councils contained many examples of these interactions.³⁸

Importance of RCIs to Government

23. The RCIs are publicly-funded and publicly-owned and it is perhaps a reflection of that fact that led the quinquennial review of the Research Councils in 2001 to put at the top of its list of criteria underpinning their existence: “to provide a national capability and source of advice to Government”.³⁹ This is the role which makes a crucial distinction between RCIs and other research bodies in that they are specifically intended to provide facilities and research to underpin public policy. The memorandum submitted by RCUK underlined this emphasis on their “national” importance by beginning its description of the strengths of RCIs with “delivery of world-class research in areas of national strategic importance, the provision of cutting-edge national and international facilities, ability to respond to national emergencies [and] providing expertise advice to aid policy-making”⁴⁰ These four characteristics together make up a highly valuable national resource, and we were given examples to illustrate the contribution of RCIs to Government and public policy in each of these ways.

32 Ev 99

33 Ibid

34 Ev 145

35 Ev 81

36 Ibid

37 Q 130

38 Ev 109–152

39 Quinquennial Review of the Grant Awarding Research Councils, OSI, 2001, 3.11, <http://www.rcuk.ac.uk/cmsweb/downloads/rcuk/publications/qqr-s2.pdf> i

40 Ev 110

- First, as we have seen earlier, the RCIs have clearly-defined missions and are designed to meet strategic needs. Perhaps few areas at the moment could be as globally important as that of climate change, where an institute was identified by the Government and the Research Councils as the best way to ensure the innovative and concentrated research effort that was needed to tackle this issue. The Tyndall Centre has been highly praised for the quality of its science.⁴¹
- Secondly, national and international facilities, unique to RCIs, are provided by all the Research Councils, and range from the datasets maintained by BBSRC and NERC institutes to the astronomical instruments owned by PPARC. These facilities are made available to other researchers and, in cases such as those facilities run by the Institute for Animal Health, they form a vital part of the infrastructure for Government testing and investigations.
- Thirdly, the speed of response of the RCIs to national emergencies was raised by several witnesses, including the University of Leeds.⁴² The most commonly cited examples were of animal disease outbreaks, such as foot and mouth or avian flu. Central to the ability of the RCIs to redirect their staff and programmes to meet urgent requests from Government is the autonomy of the director of an institute within the stable environment created by long-term core funding. University researchers on typical three-year grants would not be able to change focus in this way.
- Fourthly, in responding to our questions about whether RCIs are the best place to conduct policy-driven research, the Chief Executive of MRC pointed to the relationship between the Research Council and the institutes and explained that “it is certainly—potentially anyway—easier to imagine focusing a request for a policy-driven need within the institute system because it is more easily accessible, questions can be asked directly, the details of the facilities and staff available are more directly known to the Research Council than ... the university sector.”⁴³ It may also be that the RCIs are the only ones with the core facilities and skills sets to carry out specialised work. For example, the field trials for GM crops were carried out by a consortium of institutes, including Rothamsted Research who rightly claimed that those trials “were vital in informing UK and EU policy on GM crops”.⁴⁴

24. The importance of the RCI sector to the Government and to the public sector more generally in all these ways is readily acknowledged. For example, Professor Sir Keith O’Nions, Director General of Science and Innovation, OSI, in discussing the Centre for Ecology and Hydrology and National Institute for Medical Research, told us that “they are crucial to the future of the science programme”.⁴⁵ Another end-user of the work of RCIs,

41 Ev 122

42 Ev 81

43 Q 42

44 Ev 89

45 Q 16, Oral evidence taken before the Committee on 17 January 2006, HC (2005-06) 203-i. This transcript is currently available at www.parliament.uk/s&tcom and will be published with the Committee’s OSI Scrutiny Report 2006

the Environment Agency was highly complimentary about the work undertaken by the CEH, telling us that “CEH’s long experience on a wide range of research topics makes them uniquely able to undertake the type of applied research on which the Environment Agency relies”, for example in freshwater science.⁴⁶ **We conclude that the UK RCI sector makes a highly valued and unique contribution to national scientific capacity.**

Comparison with universities

25. The Government’s evidence to us defined the role of RCIs against that of universities: “RCIs should not, as a general principle, duplicate the research missions or *raison d’être* of HEIs or industry”.⁴⁷ It continued: “The rationale for such institutes is to provide research capacity for the UK which does not exist in the private sector and which would be difficult for HEIs to sustain on a long term basis, for instance as a result of the sheer size of the investment needed or its long term nature”.⁴⁸ It is natural to use universities as the best available comparator to the work of RCIs but it is interesting to note the emphasis on the negative aspects of the RCI sector: they should only do what universities cannot do. The implication is that where universities can do particular research, they should be preferred over RCIs. Indeed this is made explicit in the quinquennial review which states that “in reviewing their institutes, Research Councils should always consider whether their work could be done within universities and whether this would be more cost-effective”.⁴⁹

26. The quinquennial review also makes the point that the university sector has changed dramatically in the recent past, noting that “universities may be willing to undertake work now which previously they would not have wanted to do”.⁵⁰ This has led some to suggest that the view of RCIs outlined earlier in this chapter is outmoded. Professor Blakemore told us that “after the war the best science in this country was certainly delivered through Research Council Institutes but what we have seen is a gradual increase in the strength and power of universities and the strategic thinking of universities”.⁵¹ Asked about the opinion voiced by Lord Sainsbury, that “basic research increasingly should be done in a multi-disciplinary environment like universities”,⁵² Professor Blakemore agreed that in the medical field “one has to question whether even very large isolated research institutes can continue to provide sufficient inter-disciplinarity into the future because the demands of the biological sciences in terms of interaction with other scientific disciplines is growing all the time”.⁵³ In addition, he believed that “there are many areas now where the universities are perfectly capable of delivering what institutes and units used to do”.⁵⁴

46 Ev 91–2

47 Ev 78

48 Ibid

49 Quinquennial Review of the Grant Awarding Research Councils, OSI, 2001, 3.16, <http://www.rcuk.ac.uk/cmsweb/downloads/rcuk/publications/qqr-s2.pdf>

50 Ibid

51 Q 8

52 Q 60, Oral evidence taken before the Committee on 25 January 2006, HC (2005-06) 490-ii. This transcript is currently available at www.parliament.uk/s&tcom and will be published with the Committee’s OSI Scrutiny Report 2005–06.

53 Q 31

54 Q 8

27. Throughout this inquiry we have sought to establish whether the Sainsbury doctrine is correct. We started by asking whether the work could be done in a university as effectively as in an institute. To answer this question it is necessary to compare what is already known about the quality and cost-effectiveness of research in the two types of research centre. Here, we received evidence from the University of Leeds that “it has been shown that, again with important exceptions such as the MRC Laboratory of Molecular Biology (MRC LMB) and John Innes, better research is often done in universities at a lower cost to the Research Councils”.⁵⁵ However, most witnesses disagreed with this generalisation. For example, on quality, Professor Sir Howard Dalton, Chief Scientific Adviser, Defra, told us that “There is no doubt at all that the quality of the science which the research council [institutes] produce is first class”.⁵⁶ Data compiled by *Research Fortnight* in March last year also indicated that certain RCIs have much higher success rates in accessing funding through peer-reviewed grant proposals than universities, with institutes taking six of the top ten places.⁵⁷ On cost-effectiveness, we are of the opinion that it will be much easier to judge once the impact of full economic costing is revealed later this year but early indications are that RCIs are competitive on cost grounds.⁵⁸

28. The range and type of work undertaken by universities and RCIs respectively is also an important aspect of this discussion. As we have seen, RCIs are generally established and supported to provide capacity in areas not covered by universities. As Professor Goodfellow explained of BBSRC institutes, “if you look at the areas of animal health and welfare and sustainable farming and land use which are the predominant area that our institutes do, they are areas in which universities are not the major players”.⁵⁹ Similarly, Professor Thorpe considered that NERC “look to our institutes to be absolutely cutting edge in providing [capability to do research ie monitoring, datasets, facilities] [...] I suspect it would be rather difficult for universities to do as well by the nature of the structures”.⁶⁰ Again, Professor Dalton supported the RCIs, arguing that if they disappeared, “it may well be possible to get some of [the policy-driven research] from the universities, but it does not have ... the long-term stability that you need in order to be able to develop research programmes and to respond to the various problems that you have”.⁶¹ Other witnesses suggested that the ethos of universities would militate against their taking on the long term work of RCIs since they are dependent upon publication in high profile journals and time-limited responsive mode grants.⁶²

29. RCIs have unique features and facilities that are not currently available or can readily be created within a university environment, but, given time and a change in funding structures, stewardship of national assets and specialised units could be moved into universities and that the skills, personnel and expertise would then be available from within

55 Ev 4

56 Q 176

57 *Research Fortnight*, 22 March 2006, p 20

58 Q 50

59 Q 44

60 Q 45

61 Q 178

62 Eg. Ev 153

the HEI sector. As the Biosciences Federation told us the answer to the question “couldn’t the work be undertaken in a University?” is “yes”: “anything could be undertaken in a University”.⁶³ However, the Federation continue: “the real question is ‘would the work be undertaken in a University?’” and “the answer to this question is much less clear and in some cases almost certainly ‘no’” because of the strategic nature of institutes and their funding arrangements.⁶⁴ Professor Shirley of IAH took a different approach to reach similar conclusions: “You could create it in a university setting but you would end up with an institute. If you want the sense of mission and the sense of continuity, if you want the targeting or if you want the facilities and the ability to maintain them over long periods of time, you need to set in place funding management structures that differ from the 3-year responsive mode grant”.⁶⁵ This could be done but we have received no evidence at all that universities would want to take on these responsibilities.

30. We have also heard that the discussion should not focus on a division between RCIs and universities but on how to bring them together in structures which might offer more than the traditional stand-alone institutes. Many RCIs are already closely connected with universities in various ways. These range from the sharing of RCI facilities and capabilities by universities to the training links we have highlighted earlier. In addition, there appears to be a trend towards collaborative ventures. NERC, for example, has introduced a policy in recent years of establishing collaborative centres “which are actually places where there are university staff working alongside NERC staff in terms of delivering a central mission”.⁶⁶ The director of one of these hybrids, the Tyndall Centre, pointed to the advantages of the arrangement in terms of “the potential for a much richer exchange of ideas and cross-fertilisation of ideas”, due to the wider community of academics, and the presence of undergraduate and postgraduate students which meant that “the next generation of researchers and academics is being trained alongside the research we are doing”.⁶⁷

31. Going further, it is already the case that many RCIs are embedded within universities. This was recognised in the quinquennial review which commented that “the increasing use of co-location of institutes within universities is often beneficial for both, and we encourage this”.⁶⁸ The MRC have openly espoused the policy that all their institutes should be co-located, seeing this as a trend that is occurring “all around the world”, for example in Canada, Singapore and the United States⁶⁹ Professor Blakemore identified two advantages of this trend: “one of which is the possibility to extend the range of inter-disciplinary collaboration. The other great advantage is that it brings the special qualities and strengths of the intramural programme to support work in the universities”.⁷⁰ He was supported in this by the OSI’s Sir Keith O’Nions who told us that “in some cases there are very strong

63 Ev 99

64 Ibid

65 Q 117

66 Q 8

67 Qq 1–2

68 Quinquennial Review of the Grant Awarding Research Councils, OSI, 2001, 3.16, <http://www.rcuk.ac.uk/cmsweb/downloads/rcuk/publications/qqr-s2.pdf>

69 Q 112, Q 348

70 Q 31

arguments for putting these alongside university research and there is probably no better example, frankly, than in medical research”.⁷¹ The other Research Councils we asked were more circumspect, reflecting the different nature of their institutes. BBSRC told us that it “encourages close working relations between RCIs and universities wherever this will deliver added value to the UK research base, but does not assume that this must be achieved by embedding RCIs within universities”.⁷² However, the Council gave us examples where “more formal joint arrangements” were under development with the University of Edinburgh in the case of the Roslin Institute and Welsh universities in the case of IGER. NERC, for its part, argued strongly that “stand-alone centres have demonstrated their ability to support a diversity of skills and multidisciplinary research without the need for co-location or embedding in a university environment.”⁷³ It concluded that “continuing with the present mix of institute models” was the “most appropriate way of meeting NERC’s science needs”.⁷⁴

32. Professor O’Nions of OSI assured us that “there is no policy that emanates from us” on embedding RCIs within universities but that he had “been rather supportive of those policies that are coming from the Research Councils in those areas”.⁷⁵ We believe that NERC is right to value the advantages of having different models to suit different purposes. We agree with the Tyndall Centre that “it would be very inappropriate simply to say there is one organisational model that would satisfy the diverse needs and requirements of scientific research”⁷⁶ and we recognise the truth of the director of the IAH’s observation that his institute, and by implication, others, “is a unique resource and to establish this from *de novo* would be hugely expensive and it would take years to reach the state where it is functioning”.⁷⁷ **We have received no evidence to support the view expressed by Lord Sainsbury in January 2006 that basic research should increasingly be done in universities, rather than separate research institutes. We believe that links between RCIs and universities at all levels should be actively encouraged but that each case should be judged on its merits and the form of each institute should follow the needs of the science.**

71 Q 440

72 Ev 162

73 Ev 167

74 Ibid

75 Q 440

76 Q 4

77 Q 116

BBSRC, which recently decided to allow its institutes to apply for a capped amount of responsive mode competition funding.⁸²

36. BBSRC's decision was supported by those giving evidence to us, such as the Biosciences Federation.⁸³ Others were more equivocal. The University of Leeds considered that the idea of RCIs bidding against universities for some of their support was a good one but also noted that “the success rates of RCIs with BBSRC ... are much higher than that of universities which is not necessarily consistent with their relative research quality”.⁸⁴ BBSRC not surprisingly disagreed, although its Chief Executive did accept that part of the success of institutes might be down to expertise in producing the grant applications.⁸⁵ This raises the question of the balance between core funding and grant funding and whether it is perceived as fair to both RCIs and the HEI sector. The Research Councils stressed that even proposals for core funding were subject to rigorous review as to the quality of the science. For example, Professor Blakemore told us that:

“We, like NERC and BBSRC, have tried to devise mechanisms for tensioning the bids from institutes and the bids from universities for grants directly so that it is a transparent process of comparing quality. When proposals come to boards for renewal, the quinquennial review of institutes or units, their quality is expressed precisely the same terms, the same ranking mechanisms, peer review and so on as the grant applications that the same board is looking at in the same session. I think this transparency is very important to convince the university sector that continuing investment in institutes is worthwhile, the quality of the science is exceptionally high and therefore in the long run it is in their interests that that investment should be continued.”⁸⁶

This is undoubtedly true, although all the evidence we have received suggests that the university sector values the RCIs and can see that a strong RCI sector is good for the health of the UK science base.

37. On the other hand, the Prospect union BGS (British Geological Survey) Section wrote to us with their suspicions that “NERC has an agenda of reallocating funding from its institutes [...] to universities”.⁸⁷ This refers to NERC's commitment to introducing “more flexible funding methodologies” in order “to improve the cycle of strategic objective setting, commissioning research and evaluation of outcomes, all informed by stakeholder input”.⁸⁸ We note the assertion by Professor Thorpe of NERC that “some of our institutes are rather successful at bidding for other NERC grants and funding”,⁸⁹ and we do not see the changes underway at NERC as against the interests of its RCIs. Nevertheless, we will be interested to see the changes in the allocation of NERC funds between RCIs and

82 Q 27

83 Ev 100

84 Ev 81

85 Q 52

86 Q 48

87 Ev 153

88 Ev 141

89 Q 28

universities in the next few years. **We believe that the best science should be supported by the Research Councils regardless of whether applications originate from universities or institutes, and that RCIs should not be barred from applying for responsive mode grants.**

38. One particular concern raised with us by RCI directors was the rationale behind the Research Councils' policy on who could apply for funding to which Council. There has been a recent agreement between BBSRC, MRC, Wellcome Trust, the British Heart Foundation and Cancer Research UK that "institute staff, supported by those organisations, can be eligible to apply for research support from any of the other funders".⁹⁰ Professor Blakemore implied that this development might lead to a change of MRC's policy on disallowing applications from MRC institutes for MRC grant funding.⁹¹ Elsewhere, however, there are restrictions on which Research Council might be applied to for funds. For example, a CEH scientist may apply to BBSRC and NERC but applications, passed by peer review, have been refused by EPSRC in at least one case and CEH employees are no longer eligible for MRC funding.⁹² This is an issue which is overseen by RCUK, the umbrella body for the Research Councils. The CEH Director commented that she found "RCUK's attitude to funding not helpful, particularly for interdisciplinary science" and that "I do not see the reasons why research councils do not fund the best science; I do not understand why they put up barriers."⁹³ When we asked Professor Sir Keith O'Nions about this issue, he said that there were "quite good reasons" why RCIs could not apply to any of the Councils: "There are eight of them and you could sprinkle your proposal to eight different Research Councils".⁹⁴ Given the current emphasis on multidisciplinary, this does not seem sufficient reason to prevent the best scientists receiving funding for the best proposals. **We recommend that RCUK review its policy on eligibility of scientists in RCIs to apply to any of the eight Research Councils. To encourage interdisciplinary research, we recommend that there should not be a limit or bar to RCIs being able to apply to any of the Councils for funding.**

Funding for collaborative and multi-disciplinary centres

39. The funding mix for cross-Council research centres is naturally even more varied than for those with a single parent Council. The Tyndall Centre, for example, receives core funding from NERC, ESPRC and ESRC as the first tripartite collaborative centre. It was originally awarded funding for a five year period but when this was reviewed towards the end of that time, the Centre received funding for only three years. The experience of multidisciplinary centres such as the Tyndall Centre is valuable to this inquiry in view of the increasing emphasis placed on multidisciplinary and the likelihood that more such institutes will be developed in the future. We therefore treat it as a warning call that the Tyndall Centre had many criticisms to make of the review process which it had to undergo

90 Q 26

91 Q 51

92 Q 258

93 Ibid

94 Q 445

to secure further funding. The Tyndall Centre director expanded on this in oral evidence, telling us that:

“there is some learning that is still being done about how research councils make joint decisions and I think the Tyndall Centre has pushed at some of those limits or some of those obstacles to making a joint decision. Certainly, when we were negotiating the second contract, the feedback we were getting from three different research councils was on occasions different and on some occasions contradictory. One research council wanted our proposal to move in one direction and another research council came back and said, ‘No, no, we want it to move in a different direction.’ Rather than having one steer, we were getting multiple steers, and of course that makes things difficult. So there is learning to do. I think that is recognised generally within research councils but it is genuinely difficult to find good and effective decision processes and mechanisms to make those sorts of cross-council decisions on interdisciplinary research.”⁹⁵

We are concerned by the experience of the Tyndall Centre in securing an extension to its funding and we expect the Research Councils to seek mechanisms to ensure that similar issues involving interdisciplinary research might be handled more effectively in the future.

40. The range of other funding the Centre receives and the implications of this for its future are worth noting. The Tyndall Centre’s director told us that at the moment “there is an expectation that we would match our core funding from the research councils with an equivalent stream of funding from government, civil society, organisations from business and so on”.⁹⁶ It could be that in three years’ time the centre will “no longer have core funding from research councils” and “in that case, we would secure funding from a variety of other sources, from government, from business, from Europe and international agencies”.⁹⁷ This ambition is an indication of the Tyndall Centre’s strong reputation and brand leadership and it shows that a successful centre like this can thrive without core funding in perpetuity from the Research Councils.

Government funding for RCIs

41. In addition to the Science Budget administered by the OSI, RCIs may also receive Government funding from departments through either core funding or commissioned work. The amounts involved can be quite significant, which means that the individual departments are key customers of the RCIs and therefore, to varying degrees, in a relationship of mutual dependency. As the recent RIPSS report on sustainability acknowledged, “in some cases [e.g. NERC and BBSRC RCIs], a Government department may be the single largest customer for the research services of a RC institute (an integral part of the SEB [science and engineering base]) in a strategically interdependent relationship”.⁹⁸

95 Q 255

96 Q 248

97 Q 253

98 RIPSS, para 2.11

monitoring activities in order that this vital information will continue to be available to inform future research and policy. This would be particularly important in the case of closure of institutes where responsibility for such work may have to be transferred to a new body but it may also help to maintain the sustainability of existing RCIs by giving security of funding for part of their operations. This is closely linked to our recommendations concerning the role of the OSI in monitoring the health of the sector outlined below (see paragraph 151). Another suggestion that we have heard is that, just as the science budget itself and departmental capital budgets are ring-fenced, research budgets within Government departments should also be ring-fenced so that they cannot be raided to address funding problems elsewhere.¹⁰⁴ The remit of this inquiry has not allowed us to examine this idea in sufficient depth to offer a firm recommendation but we believe that it should be examined further. **We recommend that the Government examine the proposal that departmental research budgets, once set, should be ring-fenced for the spending period.**

The Cooksey proposals and MRC institutes

46. While this inquiry was under way, Sir David Cooksey published his proposals for the new administrative arrangements for the joint MRC and National Health Service research budgets. A new body, the Office for the Strategic Co-ordination of Health Research, is being established to oversee the funding priorities of MRC. We were keen to establish whether there would be any impact on the MRC's institutes as a result of these changes. OSI told us that there would be “no change” in the funding or accountability lines for “the majority of MRC's institutes and units” as a result of the Review, although there may be implications for nine MRC units involved in health services research, clinical trials and/or applied research.¹⁰⁵ We also understand that there will be no change to the way MRC receives funding from the OSI in the form of grant-in-aid through the Science Vote.

Conclusions on funding

47. The funding arrangements for RCIs are undoubtedly complex. Even in cases where they receive core funding on the basis that this should support the whole range of their activities, as with MRC institutes, in other cases they are expected to attract other grants from additional sources. Indeed, as the Biosciences Federation told us, “some Research Councils (especially the BBSRC) expect Institutes to use Councils' money as leverage for additional funding” and that “BBSRC institutes are given targets for commercial income”.¹⁰⁶ One witness suggested that the entire dual funding system, including presumably third party funding of any sort, “has outlived its usefulness and that consideration should be given to replacing it with some form of block (core) funding”.¹⁰⁷ However, we believe that the complexity of funding sources is not necessarily a problem as long as the core income of an institute is guaranteed for its five year period. This gives it the stability the institute needs to carry out its mission to the best of its ability and to meet the

104 Q 162

105 Ev 194

106 Ev 100

107 Ev 98

expectations of the Research Councils and the science community, as well as its direct customers. We note that all witnesses, including Sir David Cooksey in his review of funding arrangements for health research, have stressed the importance of core funding to the RCIs.¹⁰⁸ We can see the value of extra-Council commissioned research, especially from Government departments, but we are concerned that the commissioners of this research should be aware of the need to support the core facilities and skills underpinning it in order to ensure the sustainability of the institute involved.

48. We consider that the balance between core funding and responsive mode funding available to RCIs works well at present and that there is no evidence that inappropriate levels of support are given to RCIs in preference to universities. We are also strongly of the view that core funding is the best way to ensure that an institute remains viable and capable of delivering its mission. We are concerned that the financial difficulties which have been experienced for some time by certain BBSRC and NERC institutes indicate that not all stakeholders are prepared to acknowledge the part they have to play in ensuring the sustainability of this part of the research base.

4 Directing the strategy of RCIs

Introduction

49. The RCIs are expressly designed to be strategically-run organisations, with a clear mission and a well-defined place within the strategy of their parent Research Councils. As Professor Blakemore told us, “if you looking for a single word to sum up the reasons for having institutes then it is strategy”.¹⁰⁹ There are several different bodies with an interest in influencing the strategy of RCIs, including the institutes themselves, the Research Councils and the Government. In this chapter we examine how each of these players can bring its influence to bear and how their differing interests can be co-ordinated.

RCI management

50. The directors of RCIs enjoy a wide degree of autonomy. The directors of the BBSRC institutes explained that once a business plan has been agreed with their sponsoring Council, “a lot of the running of the institute is left very much to us to develop a science structure which is consistent with the BBSRC’s mission” (Professor Shirley, IAH).¹¹⁰ This has both long-term and short-term advantages. In the long term it means that each RCI is able to take a strategic view of its own area of interest and the capabilities which will be necessary to underpin research in this area. Professor Shirley gave the example of the IAH programme on avian immunology which can now encompass the topical threat of avian flu.¹¹¹ He explained that:

“As an institute we evaluate our science programmes on a regular basis. We constantly look at the fit-for-purpose of our programmes. We have the ability to close programmes down if we think they are not going in the right direction or are not productive, but we can also start programmes up if we so wish by using our core strategic grant.”¹¹²

This long-term strategic planning can include the retention or development of facilities which may not be immediately relevant but which could be vital in the future. Again, some of the more long-running monitoring work could fall into this category but it also includes science programmes in less fashionable areas and facilities.

51. As a result of this freedom to interpret their mission, the RCIs are able to exploit the short-term advantage of their autonomy to respond quickly to unanticipated requests. For example, IGER and Rothamsted Research were able to undertake farm scale evaluations of GM crops for the Government when the issue suddenly arose out of nowhere. Professor Crute of IGER told us: “Because we had expertise in place in weed biology, in invertebrate biology and knowledge of the sort of mathematical processes of sampling, we were able, literally overnight, to put together very substantial teams of people to address that.”¹¹³

109 Q 1

110 Q 149

111 Q 114

112 *ibid*

113 Q 115

Another example would be the response of the IAH to the foot and mouth crisis when, as the BBSRC Chief Executive put it, “everyone at Pirbright just stopped all their long term research and went immediately into crisis mode”.¹¹⁴

52. This ability to respond rapidly and flexibly to new requirements is highly valuable to all the customers of RCIs and is dependent upon the RCI director being able to redirect the core strategic grant to cover new demands. He or she can also move people around and reallocate use of facilities to ensure that the work can be properly conducted. This can mean diverting staff from their planned activities and occasionally hiring temporary staff. Professor Crute explained that with the farm scale trials, “it was a combination of taking proportions of people’s time to divert them on the basis of priority plus some additional recruitment and training of staff to meet those objectives”.¹¹⁵ One disadvantage of this may be that PhD students are prevented from completing their research in the time allotted but the BBSRC assured us that with foot and mouth at least “we gave money to make sure PhD students were not disadvantaged”¹¹⁶ and we can see the attractions for students and indeed staff at such institutes of working together as a team to use their expertise to address a crisis situation.

53. The difficulty faced by the institute directors is that the maintenance of the capacity which they need to meet these sudden requests is very expensive and it is not clear how it should be funded in the meantime. The Biosciences Federation raised what it rightly called “an unanswerable question” of how long a capacity should be maintained where it has considerable cost implications, pointing out that the IAH “very nearly closed all work on scrapie” which would have greatly reduced the UK capacity to work on BSE.¹¹⁷ The Federation commented that “A capacity must be sufficiently versatile so that it is making useful scientific contributions even in times other than crises”.¹¹⁸ This is a hard call for the institute directors to make but it is clear that they take their responsibilities for protecting UK research capacity very seriously. Professor Shirley of IAH, for example, told us that “we are very mindful of the long-term needs of the UK science base ... if we think that this is an area of science which is critical and it maybe does not fit, for whatever reason, Defra’s portfolio of interest, we can—and we have done in the past—use our core strategic grant to make sure that we can retain the skills of particular individuals”.¹¹⁹ Both Professor Shirley and Professor Crute of Rothamsted Research gave examples of where they had been forced to take such steps to protect areas of national importance where funding had been terminated or reduced.¹²⁰

54. We greatly welcome the flexibility accorded to directors of RCIs to develop their own strategies and to redirect their resources to best advantage, both in the long and short term. We also applaud their far-sighted attitude towards custodianship of national capabilities which may become of sudden strategic importance. Nevertheless, we recognise that this is

114 Q 73

115 Q 113

116 Q 73

117 Ev 99

118 Ibid

119 Qq 145–6

120 Ev 102

not sustainable in the long run. **It is a major advantage of individual institutes that they take responsibility for strategy in unfashionable high risk areas of science but they cannot be expected continually to reallocate ever diminishing resources to maintain capacity without recognition of the vital role they are playing in doing so** (see paragraph 77 below).

Research Councils and strategy

55. The use of RCIs by Research Councils varies according to the remit of each Council and the type of work needed to fulfil it. EPSRC, for example, has no RCIs of its own, although it has responsibility for the Culham Laboratory which conducts nuclear fusion research. Of the other Councils, BBSRC, MRC, NERC and PPARC all invest large sums of money in RCIs, and the AHRC and ESRC each have a significant number of centres all based within university settings.¹²¹ In each case, evidence from the six Councils involved was strongly in favour of the RCI structure and the advantages which RCIs brought to the Councils in furthering their own overarching strategy. AHRC, for example, believes that “they provide a means through which the AHRC is able rapidly to enhance capacity, capability and awareness in a field, and to secure advances in knowledge and understanding through concentrated collaborative working”¹²²; the BBSRC regards “its sponsored institutes as essential to the lifeblood of the UK’s biotechnology and biological science research base”¹²³; and ESRC considers them “central to the ESRC’s strategy to develop the UK social science research base and strengthen its position on the international stage”.¹²⁴

56. The Research Council Chief Executives who gave evidence to us all strongly believed that the mission for RCIs should be decided by the Council, rather than by other players. Professor Thorpe of NERC, for example, told us that “we see our institutes as a major player in delivering our science strategy so the council very much regards the institutes as a vital bit of that and therefore wants to have a strong say in decision-making process on how they go forward.”¹²⁵ Similarly, the MRC Chief Executive told us firmly that “the needs are entirely specified by the council”.¹²⁶ He went on to explain that in this way the Council could ensure that national needs were met, citing the example of the toxicology unit in Nottingham which had been established to respond to “a national need to have a centre of excellence in toxicology”: “it is unlikely that any university could provide the critical mass to sustain that and we feel there is a responsibility to do so in the case of a particular need”.¹²⁷ As with the RCI directors themselves, the Chief Executives of the Research Councils also regarded RCIs as giving them valuable flexibility in that the institutes could be rapidly redirected by the Councils to pursue research in newly emerging areas of interest. Professor Thorpe told us:

121 Ev 110

122 Ev 114

123 Ev 118

124 Ev 126

125 Q 4

126 Q 6

127 *ibid*

“It is a critical advantage of Research Council Institutes it seems to me that we can respond very quickly to discoveries. The Antarctic ozone hole would be a good example for NERC where the discovery led to substantial amounts of extra unforeseen activity to be needed. Because NERC has a very major part of its budget committed to council institutes we have the ability to be flexible.”¹²⁸

57. The Councils do, however, recognise that other parties have an interest in the strategies followed by RCIs. Julia Goodfellow of BBSRC explained:

“our Councils make the final decisions on what they want to fund, so it is a council decision, but it would not be sensible for the institutes not to think about what we want and what other funders like Defra or the EU want because they are getting funds from a lot of places. Although our institutes come out with their own five year strategies which are agreed by their governing board, reflected in that is their knowledge of what some government departments—Department of Health or Defra—might want from them.”¹²⁹

This underlines one of the defining features of RCIs, namely their greater responsiveness to the needs of the customers for their research than universities are able to offer. It also highlights the fact that institutes face multiple pressures in setting their priorities.

The relationship between Research Councils and their institutes

58. One issue that all stakeholders agreed on in evidence to us is that the wide variations in the structure and purpose of RCIs means that the relationship between each of them and their parent Council was unique and therefore a matter for the individual Research Council to determine. We asked the directors of RCIs about their relationships with their parent Councils. Those directors from whom we took oral evidence were broadly warm in their appreciation of the support they had received from their Councils. Professor Shirley of IAH, for example, told us that “the working relationship I have had as director and as acting director with BBSRC has been incredibly positive and very supportive”.¹³⁰ His colleague, Professor Pollack of IGER, concurred, particularly in light of the recent financial crisis at his institute.¹³¹ He explained that BBSRC had “worked out short-term financial measures to keep the institute solvent” and “helped us to negotiate through sale of fixed assets a way forward which gives us the aspiration to a stable business over the next five years.” He concluded that “I could not have asked for a more positive relationship with BBSRC over the last 12 months”.¹³² On the part of NERC institutes, the praise was perhaps less full but, equally, little criticism was voiced. Professor Nuttall of CEH told us that “I would say our relationship with NERC is a good one now; it has been through a difficult time but we now have an understanding, we have a way forward”.¹³³ It appears from these comments and the lack of counter-evidence that relationships between Research Councils

128 Q 75

129 Q 7

130 Q 149

131 Q 118

132 Q 166

133 Q 258

and the directors of RCIs are in the main good and that the RCIs generally feel that support is available when they need it but that they are allowed to “operate without undue interference”, as the director of the Tyndall Centre put it, in the running of their organisations once a contract or five year strategy is established.¹³⁴

59. Witnesses suggested that RCIs should have a say in the decision-making procedures which determine the strategy of the Councils themselves. After all, it is the RCIs which carry prime responsibility in many cases for ensuring that the mission of the Council is realised and which could feed back information on areas of science which may need additional attention in the near future. There is a clear division here between management and staff in their involvement with Council activities. For example, Professor Crute of Rothamsted Research told us that “all directors have a role ... within the operation of BBSRC”, his own including membership of the BBSRC Strategy Board and the BBSRC Estates and Equipment Board.¹³⁵ The union Prospect, on the other hand, told us that “there is no voice for employees as a key stakeholder group” on either institute governing boards or Research Council boards, which “is at odds with the university senate model in which employee representatives are able to participate both in the overall management of their institution and in determining its strategic direction.”¹³⁶ It should be remembered in this context that, in many cases, institute staff are directly employed by the Research Councils.

60. The Chief Executives of NERC and BBSRC defended themselves against these criticisms by pointing out that, in the case of NERC, “our major research institute directors [have] an executive board role to manage NERC as a whole” and that “there are a significant number of research institute scientists [on NERC’s science advisory panels] but they are on those panels by virtue of their scientific disciplines and knowledge”.¹³⁷ Both Chief Executives felt that it was right not to have institute directors on the Council because “our council members are there to be independent and obviously our research centre directors have particular strong vested interests in their particular areas.”¹³⁸ In addition, as Professor Goodfellow explained, on the Council “we are making formal decisions about how much funding [the RCIs] are going to get”.¹³⁹ There is obviously merit in this argument. Professor Guy Dodson, formerly of NIMR, suggested that “four factors are essential to successful management of institutes by RCs”: proper representation and balance on Council; transparency; consistency; and sensitivity to the views and concerns of staff.¹⁴⁰ We endorse this view and note that it can be achieved without the presence of staff or directors from an institute on all decision-making bodies of a Research Council. What is vital is that the Council is able to command the respect of the staff of an Institute, and it is clear that an important aspect of this is the balance of members of that Council and the transparency and fairness of its dealings.

134 Q 253

135 Q 151

136 Ev 98

137 Q 87

138 *ibid*

139 Q 90

140 Ev 102

Harmonisation of practice

61. Our terms of reference for this inquiry included examination of the case for greater harmonisation of practice. In support of the current position, the Government told us that “individual Research Councils are responsible for choosing the precise way in which they manage and fund their institutes”,¹⁴¹ while RCUK explained that “the approaches to establishment and support of RCIs reflect the nature of the science and research they have been established to deliver”.¹⁴² We have detected no enthusiasm for greater uniformity and indeed were told by one witness, the University of Leeds, that “The responsibilities of the several Research Councils for quite different fields and characters of research mean that any imposed ‘harmonisation of practice’ would be at best ineffective and at worst harmful”.¹⁴³ PPARC supported this, telling us that “greater harmonisation of practices could conceivably preclude PPARC from being fully involved in future international establishments and projects and consequently limit our ability to provide UK researchers with access to the state-of-the-art facilities necessary for competitive research”.¹⁴⁴ **Given the range of different institutes encompassed under the umbrella title of “RCI”, we agree that general moves towards harmonisation of practice would be impractical and non-beneficial.**

62. In certain areas of the support offered by Research Councils and RCUK, however, general lessons may be drawn. We support the suggestion that the Research Councils should have a role in disseminating best practice and co-ordinating the activities of their RCIs. We were told by the BBSRC directors that “at the moment it is a sort of bottom-up approach of sharing best practice” which was “a very effective way of operating”.¹⁴⁵ Professor Pollock explained that:

“At a scientific level there is increasing and effective communication. We have already joint programmes of work in key areas of science that stretch between ourselves, Rothamsted, John Innes and Scottish Crops Research Institute, so there are, I think, plenty of opportunities to ensure that good science is being carried out in a cost-effective manner. The BBSRC institute directors meet regularly, informally among themselves, to discuss issues of improved best practice in both science and governance and increasingly those discussions are beginning to involve colleagues north of the Border as well.”¹⁴⁶

63. However, there seems to be no mechanism for best practice to be passed on throughout the system, and the Tyndall Centre also argued that “no infrastructure exists within the RCs to facilitate co-ordination instead of competition between research institutes, or perhaps more importantly, between their knowledge transfer efforts”.¹⁴⁷ NERC itself told us that it was “keen to work with other Research Councils to achieve a greater

141 Ev 78

142 Ev 112

143 Ev 5

144 Ev 72

145 Q 156

146 Q 155

147 Ev 92

harmonisation of approaches in supporting RCIs, based on benchmarking and best practice.”¹⁴⁸ We believe that there is scope for more discussion and development of best practice in relation to RCIs, both in terms of the support given to them by Research Councils and in terms of their own activities. **We recommend that the Research Councils review their mechanisms for developing and encouraging best practice in relation to RCIs, both on the part of the Councils and also between the institutes themselves.**

Reviews

64. The process by which the Research Councils set the strategy for their institutes begins with the initial proposals for core funding to establish or continue an institute and continues through the regular review of an RCI’s business plan and quinquennial review of all its activities. The 2001 quinquennial review of the grant-awarding research councils made recommendations regarding the regular review of RCIs by their parent Councils. It set out “common and explicit criteria” to be followed by all Councils in judging the effectiveness and efficiency of institutes (the same criteria as those for establishing an institute, set out in paragraph 14 above) and a separate list of eight principles to be applied to the review process to ensure openness and transparency.¹⁴⁹ It also enjoined Councils to “consider strategic options for the future, particularly in the event that Council institutes do not satisfactorily meet the criteria that we have set out.”¹⁵⁰ These options should “include rationalisation, restructuring, merger, contracting out, market testing, privatisation and abolition”.¹⁵¹

65. In accordance with these principles all RCIs are reviewed regularly; every four to five years in the case of NERC and BBSRC. There are minor differences in the way the process has been carried out. For example, the University of Leeds pointed out that “BBSRC reviews and renews all its RCIs together, whereas NERC does them separately at different times.”¹⁵² The basic approach is similar, however, in that it involves external independent assessment of the performance of the institutes. Professor Goodfellow of BBSRC explained that: “we have peer review panels and we get international referees; the panels visit the institutes for three or four days; we also look at knowledge transfer and innovation; we look at training and we have looked for the first time this year at Science in Society, what they are doing on public dialogue”.¹⁵³ She added that:

“We also look at quality in two ways. We recognise that papers in Nature and Science may not be what other policy funders want. If you look at work on the agricultural side they actually may want a bit of paper that can go out to a farmer and that might be the right output so you have to look at quality fit for purpose. We actually gave them two scores this year, we gave them the score for the BBSRC science on the same rating as we would for any university coming in. We also gave them ratings on their

148 Ev 142

149 Quinquennial Review of the Grant Awarding Research Councils, OSI, 2001, 3.15-3.17, <http://www.rcuk.ac.uk/cmsweb/downloads/rcuk/publications/qqr-s2.pdf>

150 Ibid, 3.17

151 Ibid

152 Ev 82

153 Q 46

knowledge transfer, on the output for other stakeholders and was that what they wanted? Was it fit for purpose, better than they thought it was going to be or less than expected?”¹⁵⁴

All this information is made publicly available. MRC also stressed the importance of the quality assessment of the institutes at the time of review. Professor Blakemore explained that “When proposals come to boards for renewal, the quinquennial review of institutes or units, their quality is expressing precisely the same terms, the same ranking mechanisms, peer review and so on as the grant applications that the same board is looking at in the same session.”¹⁵⁵ This is important to reassure universities that institutes are not receiving favourable treatment from the Councils.¹⁵⁶

66. We asked the institute directors for their opinions of the review process and were surprised at the strength of their support. Professor Pollock of IGER explained that this was because “it has been set up in a way that acknowledges the breadth of mission of individual institutes and because it involves a personal visit from the panel to look at the work in its totality.”¹⁵⁷ He described the assessment as “a very important and extremely valuable tool in benchmarking institute outputs as a whole against relevant international standards.”¹⁵⁸ Professor Pollock’s only “gripe” was that before the review process moved to a five-year cycle, they did “tend to come around a bit often”.¹⁵⁹ The director of Rothamsted Research agreed, but he also had reservations about the composition of the panels which were “generally composed of a mix of academics and other people who represent industry or sectoral interests” and who did not have experience of the institute environment.¹⁶⁰ We note this view but we have seen no evidence that this in itself has caused unsympathetic outcomes from a review. On the whole, we conclude that there are no significant flaws in the current review system which require immediate rectification and we acknowledge the value of the review process to the institutes themselves.

67. The exception to this rule of course is found in cases where reviews lead to major changes in an institute’s structure or even to its closure and which can cause serious difficulties in the relationship between RCIs and the Research Councils. In chapter 7 of this report we discuss examples of where major restructuring has been proposed and general lessons to be learned on how these processes can be better handled. There is also the issue of the number of reviews which are conducted. In addition to the regular five year reviews, these may also arise from the identification of a need by the Research Council for an examination of a particular part of their research portfolio. This was the case with the review that led to the proposals to restructure the NIMR. Then, there are reviews conducted across the whole piece, such as the Costigan review. Each will have cost significant sums of money and taken significant amounts of staff time. It is difficult to

154 Q 46

155 Q 48

156 Ibid

157 Q 153

158 Ibid

159 Ibid

160 Ibid

identify exact figures but one union has estimated that the BBSRC “has spent well over £250,000 on reviews” (over an unspecified but recent period).¹⁶¹ Professor Nuttall of CEH told us that “we did not dare estimate what [the recent review process] had cost CEH” but that it would have been more than the £400,000 which the review of the Tyndall Centre had cost them and it would also have taken longer than the Tyndall Centre’s 24 months.¹⁶² **We recognise that reviews are a necessary part of ensuring that public funds on research are spent in a cost-effective and transparent way. In organising reviews, however, the Research Councils should have regard to adopting processes which maximise efficiency and minimise the cost to RCIs, both in terms of financial cost and staff time.**

Role of RCUK

68. RCUK was established in 2002 as an umbrella organisation representing all eight Research Councils. When asked about its role in monitoring and improving the effectiveness of Research Council support for RCIs, RCUK was adamant that “it would not be appropriate for RCUK to be engaged in monitoring the scientific effectiveness of RCIs”.¹⁶³ Instead, it referred us to its involvement in relation to producing the large facilities roadmap, the RCUK Efficiency Delivery Project and the Research Councils shared service centre initiative.¹⁶⁴ With the exception of the large facilities roadmap to which we shall return, we note that whilst these are all important administrative roles, they are not central to the work of the RCIs. Indeed, Professor Crute, when asked whether RCUK were taking the lead at the moment in sharing best practice, for example, told us “we are looking to this shared service centre, which, again, is nothing much to do with the day-to-day delivery of science but is very much to do with best practice from the point of view of efficiency”.¹⁶⁵

69. There have been calls for RCUK to take a more active role in oversight of RCIs. For example, the University of Leeds called for RCUK to “play a role in monitoring the regular review of activities, assessment of research quality and strategic direction to maintain international competitiveness” and to “play a monitoring role in ensuring sufficient funding for maintenance of infrastructure and training provision for PhD students and for overall best practice”.¹⁶⁶ The Biosciences Federation, on the other hand, believed that “RCUK should provide coherence to the rationales and standards by which RCIs are established and monitored as well as ensuring that adequate support is provided to each RCI”.¹⁶⁷ A similar view was expressed by the director of the Tyndall Centre who told us that where it was necessary to lead the process of establishing decision-making

161 Ev 156

162 Q 258

163 Ev 112

164 Ev 112–3

165 Q 156

166 Ev 82

167 Ev 100

mechanisms for cross-council decisions, “that level of oversight and monitoring and leadership from RCUK seems appropriate rather than the individual research council”.¹⁶⁸

70. Giving more powers or responsibilities to RCUK in this area would not be popular with the Research Councils themselves. Of the seven Councils who submitted evidence to us, only one—BBSRC—responded to this element of our terms of reference, and then only to tell us that “The BBSRC believes that the BBSRC Council is the appropriate body to review the effectiveness of the BBSRC’s support for its sponsored institutes”.¹⁶⁹ This immediately raises the question of who is responsible for oversight of the Council itself, and the answer here is not RCUK. On the whole, however, although we recognise the need for greater oversight of the work of the Research Councils in relation to their RCIs, we accept that RCUK does not have the resources or authority to carry out such a task adequately. **Nevertheless, we believe that RCUK could play a greater role in the harmonisation of best practice of the work of the Research Councils in relation to their RCIs through establishing similar mechanisms to those used for knowledge transfer in the wider Research Council context, and we recommend that these possibilities be explored.**

Government influence

71. Government departments are key stakeholders in RCIs because the institutes provide them with expertise which cannot be obtained elsewhere. It is therefore strongly in the Government’s interests to ensure that its needs are recognised in the long-term strategies of individual institutes and that changes in these needs are communicated as clearly and efficiently as possible. BBSRC, MRC and NERC each submitted evidence setting out the processes that are in place to ensure that RCIs are aware of the policy requirements of government departments when forward-planning. These consist mainly of cross-representation on a wide range of governing bodies and steering or advisory groups, as well as contacts between officials.¹⁷⁰ In addition, NERC has recently instigated a fortnightly internal bulletin “to alert NERC staff, including those in its institutes, to relevant developments in government, such as new strategies or policy needs, and to upcoming bilateral meetings and their outputs”.¹⁷¹

72. Research Councils and RCIs therefore seem to have the arrangements which would enable them to listen carefully and to respond to Government needs in planning their programmes, but we heard evidence that those needs were, in certain cases, not well articulated by the departments. Once again, the prime example is Defra which finally published its new Evidence and Innovation Strategy last October, over two years after the project to assess the department’s evidence and innovation needs had begun.¹⁷² Together with funding difficulties which have delayed decisions on support for science programmes, Defra’s dilatoriness has caused difficulties for the institutes which are supposed to work closely with Defra to implement the department’s strategy and which are dependent upon departmental contracts and funding. Professor Shirley of IAH explained that “as an

168 Q 255

169 Ev 121

170 Ev 162, 164, 166

171 Ev 167

172 Ev 171–2

institute I think that we do suffer from a lack of clear decision from a department like Defra” and that this “does make planning of some areas of science, increasingly greater areas of science, very difficult”.¹⁷³ He was supported in this complaint by BBSRC who argued that “it is important that departments such as Defra have a clear policy direction to ensure co-ordinated planning. Without this BBSRC-sponsored institutes have to make short-term decisions which will not necessarily be in the interests of the UK science base.”¹⁷⁴

73. We are concerned about the impact upon institutes of a failure by a Government department to develop and articulate its research strategy. It is right that departments should have an input into the planning processes of RCIs, given the work which those institutes perform for the departments, but in return, it is the responsibility of the departments to set out clearly their research needs in good time for the institutes to be able to act upon them. Professor Sir Keith O’Nions of the OSI told us:

“I think an Institute needs a planning horizon extending for three to five years. It is fully understandable that priorities in research change within a government department—I think we accept that—but we do need clear indicators of what the requirements may be of an Institute over a period of three to five years because there may well be knock-on effects of reprioritisation and we need to be able to plan for them carefully.”¹⁷⁵

We strongly agree. **Government departments must undertake to give as full and as early notice as possible to RCIs of their likely research requirements over a three to five year period in order that the institutes may be able to fulfil the nationally-strategic role expected of them.**

Co-ordination

74. During this inquiry we received evidence from the British Ecological Society which criticised the lack of a “mechanism for ensuring that Research Councils take a joined-up strategic approach to RCIs”.¹⁷⁶ In particular, the Society identified a need for a “more coherent strategy between Defra and NERC to ensure that the UK’s strategic scientific infrastructure is not undermined by current funding structures”.¹⁷⁷ Professor Crute of IGER made a similar call for:

“a much better dialogue, which is a regular dialogue between Research Councils and between government departments—not just Defra but other departments as well—that rely upon Research Councils and their institutes to deliver things which are of policy importance, so that we can vision the future and make sure we do not have

173 Q 157

174 Ev 162

175 Q 418

176 Ev 83

177 Ev 85

these gaps opening up where we can lose expertise or we have to bridge for long periods.”¹⁷⁸

This need for a more strategic approach to the work of RCIs on the part of all funders was also identified by the Research Council Chief Executives, including Professor Blakemore who told us that “one of the areas of discussion and consultation we are now carrying out in the context of the proposals for a single fund for health research is around the issue of how the intramural programme [RCIs] might be more responsive to policy needs and questions within the health service”.¹⁷⁹ His counterpart at BBSRC agreed with his observations¹⁸⁰ and Professor Thorpe from NERC also impressed upon us that:

“we see an important role for us to discuss with government departments such as Defra in terms of their long term thinking on strategy as we develop our science strategy. I am increasingly trying to maintain and enhance dialogue in terms of the forward look of what might be needed in the near future. We know there is a lot of the legislation, for example, that is coming from Europe et cetera in the environmental sciences and that is something we need to be ready for. I would like to see us having a good collaborative way forward in terms of devising those strategies.”¹⁸¹

75. There are a number of mechanisms available to co-ordinate policy towards RCIs at a more detailed level. For example, in the environmental area, there are strategic forums such as the Global Environment Change Committee and the Environmental Research Funders Forum. There are also departmental bodies such as Defra’s Science Advisory Council. Of these, the Environmental Research Funders Forum was singled out by witnesses as a mechanism which “provides us [NERC] with an element of strategic long-term thinking about trends” (Professor Thorpe).¹⁸² It was also praised by Professor Dalton in his upbeat account of Defra’s attempts to introduce “joined-up thinking between the research councils and Government departments”: “the Environmental Research Funders’ Forum ... has done a very good job in trying to identify where all those gaps are so that we can then plug those gaps and do something about them”.¹⁸³

76. We were very interested to hear such positive feedback on the role of the Environmental Research Funders Forum (ERFF). As NERC describes it:

“The ERFF brings together the UK’s major public sector sponsors of environmental science, aiming to make best possible use of funding. ERFF concentrates on activities that: clearly add value; could not be done by a single member acting alone; and have the potential to advance environmental research in the UK and internationally.”¹⁸⁴

178 Q 158

179 Q 43

180 Q 43

181 Q 11

182 Q 68

183 Qq 229–230

184 Ev 142

It may be that such a forum is particularly appropriate to work in the environmental sciences but it would be worth exploring whether similar forums would be useful in other scientific areas. **We recommend that the OSI take the lead in examining the benefits of establishing similar bodies to the Environmental Research Funders Forum in other areas to ensure that Research Councils and Government departments and others work together in devising strategies for the work to be undertaken by RCIs and the public sector research base.**

77. However, we also perceive a need for an overarching strategic forum in which priorities for the RCIs and their role in maintaining the UK research and skills base could be explored with all interested parties. This would build a greater understanding of the part played by the facilities and capacities maintained by the RCIs in likely future policy developments, including datasets, laboratories, unfashionable science programmes and, of course, individual expertise. It could also begin to address the vital questions articulated by Professor Hulme of the Tyndall Centre: “How those strategic priorities are decided—should it be left to individual research councils to decide, should it be RCUK that decides, should it actually be a science minister or whoever that decides, or even this committee? Who is actually arguing for what are the national, strategic research capabilities?”¹⁸⁵ We are not advocating any diminution of the relationship between RCIs and their Research Councils, nor any restrictions on the flexibility of institutes to respond to perceived needs. Rather, we wish to see a mechanism whereby the national, and the Government’s, interests can be clearly conveyed to the Research Councils and their RCIs, and the threats to those interests as foreseen by the RCIs can be conveyed back. The responsibility for ensuring such dialogue would most readily appear to fall upon the OSI within its remit to oversee the health of the UK science base. **We recommend that the OSI be given formal responsibility for developing a mechanism for better two-way dialogue between the Government departments and the RCI sector and their parent Councils in order to improve co-ordination of the strategic direction of RCIs and to protect national scientific capabilities in strategically important areas.**

5 Defra and the BBSRC institutes

Background and history

78. Defra, and its predecessor MAFF, have a long tradition of working very closely with RCIs to fulfil their science needs and it is still the case that, as the British Ecological Society told us, “in many areas [Defra] relies on NERC and BBSRC RCIs to provide the long-term scientific infrastructure to achieve its evidence and innovation objectives”.¹⁸⁶ Defra itself acknowledged in evidence to us the “key role that RCIs play in maintaining the UK research and skills base” and the “distinct” value of RCIs “from that of universities and other research providers in that they provide long-term capability in some areas of research”.¹⁸⁷ The department identified “the provision of continuity and the alignment of research with strategic priorities without necessarily following ‘scientific’ fashion [as] one of the important strengths of the RCIs” and noted that “in some areas of interest to Defra (for example, animal health), the RCIs form a major part of a very limited supplier base”.¹⁸⁸

79. Traditionally, these factors have led to some RCIs having a much closer relationship with Defra than other research bodies. Defra describes “the relationships between Defra and the RCIs (and their parent bodies, the Research Councils) [as] primarily founded on long-term dialogue and joint identification of research priorities. These relationships are not simply those of contractor-supplier but also have a strategic/investment element”.¹⁸⁹ Defra goes on to explain that “In some areas of science within this wider competitive research market, RCIs enjoy preferred supplier status by virtue of strategic partnerships with Defra built up over many years and through their custodianship of long-term datasets and experimental sites”.¹⁹⁰

80. Defra and its public bodies have therefore worked closely with the RCIs, most notably during times of national crisis, but also on less high-profile, long-term programmes. We note in this context the current project to develop a new IAH laboratory on its Pirbright site in conjunction with Defra’s Veterinary Laboratories Agency to study exotic viral diseases.¹⁹¹ IAH and two other BBSRC institutes have received a significant proportion of their funding from Defra/MAFF since the early 1970s when some funding from the then Agricultural Research Council was redirected to the institutes via MAFF.¹⁹² Partly as a result of this and partly as a result of “the continuing importance to Defra of the work of the RCIs”, as described by the Costigan review, Defra remains by far the largest individual funder of RCIs after the Research Councils.¹⁹³ The Costigan review explained how this funding is awarded:

186 Ev 85

187 Ev 170

188 Ev 171

189 Ev 170

190 Ibid

191 Ev 119

192 Ev 120

193 Office of Science and Innovation, *Research Council Institutes, surveys, centres and units, a review of issues*, Gavin Costigan, January 2006, <http://www.dti.gov.uk/files/file27331.pdf>, 10.3

Defra reached decisions on these matters, the conclusions drawn from the E&IS process make depressing reading for the RCIs.

Impact on the RCIs

83. Defra's recent decisions and indecisions have had a significant impact upon those RCIs most directly affected. Defra's funding decisions affect the RCIs directly, in that cuts lead to redundancies, and indirectly, in terms of the uncertainty caused which leads to the RCIs being unable to plan ahead or in some cases attract business from elsewhere. Since the proportion of funding from Defra is so high for certain RCIs, these decisions (or lack of them) can place the sustainability of the Institute in doubt. BBSRC told us that "the IAH, IGER and RRes [Rothamsted Research] have each, in recent years, had to cope with the on-going uncertainties associated with Defra's inconsistent approach to funding research, including short-term decision making and lack of notice for changes, with the BBSRC (ie the Science Budget) and the institutes themselves having to pick up the high costs of resulting redundancies".²⁰³ According to BBSRC, "the impact of these funding reductions" in sustainable farming and food has led to IGER and RRes "identifying the potential need for up to 105 redundancies in 2006/07, including the closure of one of IGER's sites, with an expectation of further redundancies in 2006/07 and beyond" at an expected cost of "around £5M".²⁰⁴ BBSRC was adamant that these redundancies were "caused by Defra's funding changes".²⁰⁵

84. Evidence that this problem goes back further than the last few years was submitted by the Biosciences Federation who told us that changes in the work commissioned by Defra could have a detrimental effect on an institute in two ways: first, it could lead to the risk of an institute "losing their strategic direction in order to sustain an uncertain funding stream" and thus also lessening their attraction for the best scientists; and secondly, "periodically these institutes cannot keep juggling successfully and their finances implode with all the obvious sequelae", in terms of "redundancy payments, loss of direction and loss of capacity".²⁰⁶ The Federation points out that "some BBSRC sponsored institutes that are in receipt of Defra funding have been forced to make redundancies or lose posts on a near annual basis for two decades".²⁰⁷

85. We discussed their concerns over Defra funding with the directors of the three institutes most concerned. Following the session, the director of IAH clarified in written evidence that "difficulties are caused to IAH for two main reasons in respect of Defra funding: 1. A reduction in Defra funding streams *per se* from one grant to the next; 2. indecision or delay by Defra to continue with funding, even when IAH has been approached in the first place to undertake an area of work."²⁰⁸ He went on to explain that "the impact of these scenarios is that either key individuals at IAH are lost as individuals projects finish (1 above) or that IAH has to fund staff with bridging funds from the core

203 Ev 163

204 Ev 121

205 Ibid

206 Ev 100-1

207 Ev 101

208 Ev 179-80

budget for the months during which Defra takes key decisions (2 above).²⁰⁹ In the latter case, this obviously has knock-on implications for other programmes and it is not sustainable in the long run. Professor Shirley gave us examples of where he had had to intervene to maintain work after reductions in Defra funding, including work in cellular immunology.²¹⁰ Delays in decisions on a follow-up grant for work on the bovine syncytial virus was also currently causing grave concern, and Professor Shirley gave details of how his institute was itself having to pay to maintain genetically-distinct lines of poultry and cattle which were essential to Defra's research needs.²¹¹ Even where Defra did pay a block grant, as for the laboratories at Pirbright which provide emergency diagnostic services for animal diseases such as foot and mouth disease, African swine fever and bluetongue, the grant has remained static for three years, meaning that the institute had no possibility of replacing equipment which had been officially noted to be "in desperate need of investment".²¹² The effect of this is that "year on year, we are able to do less science or we are able to employ less people".²¹³ Professor Shirley was also concerned about "one of the more subtle changes that is happening in the Institute of Health: we are losing key staff and relying more heavily on PhD students to fulfil that research function."²¹⁴

86. Professor Crute from Rothamsted also provided us with examples of areas of science "where critical mass of expertise is being or has been severely eroded".²¹⁵ These included weed ecology and control; alternatives to agrochemicals for pest and disease control of major crops; environmental fate and behaviour of pesticides; crop agronomy and nutrition; honey bee pathology; and soil processes and environmental protection.²¹⁶ He described these as areas "where the work is either applied, policy driven or addresses specific problems as distinct from generic scientific principles", thus making it "the sort of research that would not be considered appropriate for research council support and formerly was supported by MAFF (and now Defra) as a proxy customer for the land-management sector or in support of policy objectives".²¹⁷ These reductions in capacity affect not just RRes but the national picture, since in some cases, most notably the honey bee sector, "there is no longer any credible capability ... in the UK".²¹⁸ In oral evidence, Professor Crute further argued that this "is not just to do with national expertise but [also] the way in which the United Kingdom is appearing to the international science community".²¹⁹

87. The director of IGER, Professor Pollock, echoed the comments made by his colleagues and added the emphasis that "the institutes are well adapted to cope with gradual change in direction from policy customers; they find it difficult to maintain resilience when the rate

209 Ev 179–80

210 Ibid

211 Ibid

212 Ev 180

213 Q 159

214 Ibid

215 Ev 191

216 Ibid

217 Ibid

218 Ev 192

219 Q 159

of change is very abrupt”.²²⁰ It is also a question of clarity and of a sense of direction. There was quite rightly general acceptance amongst witnesses that Defra was entitled to change its policy objectives. The difficulties arose when there was a long period of uncertainty while this process was in train, both over what would be funded and by how much. This situation has been implicitly recognised by the Government itself with the unqualified inclusion in its memorandum to us of the conclusion from the Costigan report that “the current lack of clarity about Defra’s future needs and budgets presents real challenges to the Councils, especially BBSRC” who as the employer “is liable for the costs of any redundancies resulting from reductions in Defra’s budgets” and “in some cases ... is carrying a significant risk whilst Defra establishes its R&D allocations and its own science needs”.²²¹

Defra and RIPSS

88. A further strategic difficulty in the relationship between Defra and BBSRC RCIs is the department’s failure to reach agreement with the BBSRC on the RIPSS agenda. In particular, the department has been unable to agree with the Research Council on “the interpretation of RIPSS Recommendation 2 as obliging Defra to make medium to long-term financial commitments to IGER and Rothamsted Research”.²²² The department told us that “Defra and BBSRC are able to agree a programme of science required but Defra cannot commit funds without first agreeing, in some detail, the research to be delivered in return for our investment.”²²³ It later defined the disagreement as:

“BBSRC maintains that RIPSS requires Defra to make medium to long term core funding to institutes and wants a cash-led top down approach to funding. Defra favours a bottom up “needs” led approach which means funding follows the science we need rather than cash first, details second.”²²⁴

For its part BBSRC argued that “it is becoming increasingly difficult to engage Defra constructively in implementing the recommendations” in the RIPSS report and that “There is little evidence that Defra intends to meet its obligations to IAH, IGER or RRes under the RIPSS report”.²²⁵ Discussions began in 2004 and were restarted in February 2006 but little progress has been made.

89. The failure to reach agreement on RIPSS was noted by the *OSI: Science Review of the Department for Environment, Food and Rural Affairs*, published late last year, which recommended that “Defra urgently needs to reach agreement with other funding organisations on how best to sustain the science expertise and infrastructure required to deliver the department’s policy and delivery needs”.²²⁶ It then went further in applying the

220 Q 159

221 Office of Science and Innovation, *Research Council Institutes, surveys, centres and units, a review of issues*, Gavin Costigan, January 2006, <http://www.dti.gov.uk/files/file27331.pdf>, 10.7

222 Ev 172

223 Ibid

224 Ev 176

225 Ev 164

226 OSI: Science Review of the Department for Environment, Food and Rural Affairs, 2006, recommendation 14

lessons from this to other Government departments, concluding that “Departments that commission a significant amount of science have a duty to play a part in maintaining the scientific expertise and infrastructure on which they rely, now or in the foreseeable future”²²⁷ and that “Departments should not be expected to supplant the Research Councils but neither can they expect the skills they need to appear without their contribution, both strategic and financial”.²²⁸ Sir Keith O’Nions confirmed that the OSI “are anxious for [the RIPSS issue] to be resolved and my sense is that it will get resolved”.²²⁹ He also commented more generally on Defra that:

“I think the situation is that we do need from Defra a view on the three- to five-year period as to what capacity, capability and requirements will be in order to have a proper planning situation. It may well be that on those time scales there will be job losses. I think it is difficult to live with if on a year-by-year basis there are significant shifts in funding inconsistent with the recommendation of RIPSS.”²³⁰

90. Clearly, this situation has not contributed to harmonious relations between the two sides. Defra’s deputy CSA, Miles Parker, told *Research Fortnight* in September 2006 that there is

“an interaction between us and BBSRC headquarters which I don’t think is an easy relationship. We are looking at ourselves as a policy business; their remit is to advance science. The BBSRC still tends to think of the funds that were transferred to us [following the Rothschild Inquiry of 1972] as “their money” – which we are supposed to give back to them.”²³¹

Of course, it is neither BBSRC money nor Defra money, but money for science. For her part, Julia Goodfellow, Chief Executive of the BBSRC, considered that: “On the animal health side we seem to have better dialogue... On the land use side which is where the cuts are we do not see a strategic change going on. They have to recognise that they are losing skills and they are going to lose infrastructure as well because they are withdrawing resource very rapidly so it is not a strategic withdrawal”.²³² However, she added that the Defra CSA “has been working very hard to get a strategy through and [coordinate policies] and to change a culture”.²³³

Defra’s view

91. We were concerned by the evidence we had received about the impact of Defra’s policy changes and budget cuts, not just upon individual RCIs but upon the national scientific capacities they represent. It seemed to us that the relationship between Defra and the BBSRC institutes in particular raised vital questions about the current and future role of

227 Ibid, recommendation 14

228 Ibid, summary para 4.12

229 Q 422

230 Q 453

231 *Research Fortnight*, 27 September 2006

232 Q 70

233 Q 76

RCIs within the UK science base and also about who was responsible for ensuring that the capacity was there to meet Government demands for research and emergency responses. In its written evidence Defra stated categorically that it is

“committed to having [the RCIs’] laboratory capability to ensure provision of the evidence needed to underpin the development and delivery of policy and in the case of emergencies. It is important for the Government to invest in RCIs because the open market is not able to supply all Government’s needs. This happens for a number of reasons: the R&D is commercially unattractive; the science requires high levels of physical or biological security; the availability of capacity to respond to emergency situations needs to be guaranteed; the need to ensure that particular scientific services will be available in the future.”²³⁴

92. We put some of these questions to the Minister of State for Sustainable Farming and Food, Rt Hon Lord Rooker, and Professor Dalton, Chief Scientific Adviser at Defra. Their defence was robustly conducted and we found it worryingly difficult to get either Minister or scientist to take responsibility for either the RCIs or the scientific capacity they represent. On funding, the Minister repeatedly claimed that “we have made no cuts in any of our programme to the research institutes”.²³⁵ While it is true that funding for ongoing programmes has been deferred, rather than cut, as a result of the immediate situation with the moratorium on spending, this is missing the point that the ongoing trend is for Defra’s funding for the RCIs to be reduced, and reduced without adequate notice. The Minister argued that “you cannot claim that that is a cut” when a time-limited contract comes to an end and that “there is usually a time limit” on the contracts with the RCIs.²³⁶ The Chief Scientific Adviser also referred to the part played by short-term contracts in changing the amount of funding from Defra to an RCI, comparing them to universities:

“BBSRC themselves fund universities, as indeed do we, and they fund universities on very many short-term contracts, as do we, and universities have learnt to adapt to that environment. They have learnt to say, ‘Okay, we have a three-year research contract, so we plan for that and we work towards it’, as indeed do the research institutes, as indeed also do our own agencies in some cases.”²³⁷

We believe that this attitude shows a fundamental lack of comprehension of the role of RCIs as represented by the OSI and the rest of the science community. As we have repeatedly observed, it is the stable long-term funding which allows RCIs to achieve their potential and keep focussed on their missions. It is deeply disturbing that such a key player as Defra fails to perceive this and believes that the RCIs should be identical to universities in terms of their long-term planning.

93. This issue is important because it is directly linked to whether Defra is prepared to take up its responsibilities under RIPSS for the sustainability of the RCIs. It appears that the answer is no. Lord Rooker told us that Defra was “the customer” only of the RCIs and that

234 Ev 93

235 Q 172

236 Q 192

237 Q 177

“we need them there and if one of them was not there, we would find someone else to do the work we want to do”.²³⁸ It is not clear to us who this “someone” would be in many cases. When we put it to the Minister that the RCIs might be the only source of capacity in the UK, he responded: “the implication of that is that nothing changes, that if you start a programme to set up any institute and whatever your circumstances are that might change your priorities in the future, you are bound to continue with what you have been doing. I do not think that is living in the real world.”²³⁹ Again, when we asked about the particular case of ring-fencing datasets, Lord Rooker refused to countenance the idea, although he agreed with Professor Dalton that they would fund such long-term science “providing it is not seen as though we are a milch cow for the infrastructure payments in terms of core funding irrelevant to the research”.²⁴⁰ In view of this, it is perhaps not surprising that Professor Dalton implied that redundancies as a result of the department’s moratorium could be staved off by the ability of the institute directors to “use their core strategic grant in order to be able to support the infrastructure that is necessary in order to continue the research ethos that they have”.²⁴¹ The institute directors see this as a measure of desperation, rather a useful tool for buying time for the department.

94. We were a little more reassured to hear Professor Dalton’s explanation that:

“It is clearly and simply whether or not we should be funding and putting money in in the way the research councils put money into their own research institutes as a core strategic grant or not. We cannot do that. We do not have that flexibility. We are prepared to fund the research councils long-term so long as they deliver the sort of science that we want and, as long as they keep doing that, and in many cases they do, we will continue funding them.”²⁴²

However, this illustrates the difficulties that BBSRC and Defra have in agreeing over the RIPSS agenda. Professor Dalton told us that “the relationships are pretty good” between BBSRC and himself, with many points of interaction and co-ordination but that “There is one little, tiny sticking point ... this belief that the research councils and BBSRC have that we have a sort of long-term obligation to put money into their pot which they are allowed to use in any way they like”.²⁴³

The way forward

95. We accept that Government departments have the right, indeed the duty, to review and redirect their activities, including their scientific strategies, in order best to meet current and future policy needs. We are also well aware that many of the problems which are arising now and have arisen in the recent past have been the direct result of pressures on the scientific budget at Defra which has not increased at the same rate as the budget given to BBSRC or the other Research Councils. We also recognise that the relationship with the

238 Q 174

239 Q 175

240 Q 185

241 Q 201

242 Q 211

243 Q 208

RCIs is one which Defra has inherited from a previous era and which it is now trying to adapt to fit in with its new priorities, new financial constraints such as Full Economic Costing and new standards of practice under RIPSS. Nevertheless, we are struck by the discord between the recognition of the strengths and importance of the RCIs to the department in Defra's written submission and the more dismissive attitude expressed by the Minister in particular who showed little appreciation in oral evidence of how the RCI support the work of the department. It may be that, contrary to what has been suggested to us, Defra could meet all its scientific and strategic needs without recourse to the RCIs. It would seem a sensible risk assessment exercise to test this. **We recommend that Defra catalogue all the science programmes and infrastructure made available to it by RCIs, both on a regular basis and in emergencies, and clarify how this capacity need could be met from elsewhere in each case.** In the meantime, **we recommend that Defra review its processes for giving adequate notice to RCIs of changes in policy requirements and thus in research contracts. We recommend that this be done as part of a three to five year strategy to allow institutes and the BBSRC to plan their response and to ensure that the RCIs are able to supply the science that Defra needs.**

96. We have made recommendations earlier on ensuring the continued funding of nationally-important long-term datasets and monitoring work, and on ring-fencing science budgets within departments to protect research programmes from short-term cutbacks. These conclusions apply to Defra at least as much as to any other department. Here, though, the interdependence of the RCIs and Defra make it particularly important that it is clear who is going to pay for infrastructure and programmes maintained by RCIs for national policy purposes. Part of the solution to this lies in ensuring that Defra has the money to pay for the science it needs, but the more contentious part lies in persuading the department that it is Defra's responsibility to fund such basic facilities and capabilities. Here, the RIPSS agenda is potentially of vital importance. We see no clear way forward through the public positions of the two parties on this issue but we hope that the private negotiations will prove more fruitful. We agree with Professor Sir Keith O'Nions that "the issue is too important not to resolve".²⁴⁴ **We recommend that Defra make it an absolute priority to reach agreement with BBSRC on the implementation of RIPSS and to report back to the Committee by the time of the Government's response to this Report on the steps they have taken to secure agreement.**

97. The suggestion was raised in the course of this inquiry that given the fraught nature of the relationship between Defra, the BBSRC and its institutes, it would be better to consider some mechanism whereby Government funding was channelled entirely through the BBSRC. This would have the advantage of stability of funding and of ensuring that there was only one external master dictating strategy. It would also free the RCIs from the effects of Defra delays and rapid changes of policy direction. On the whole, witnesses on both sides were against such a change. Professor Crute of Rothamsted Research, for example, told us that:

"I personally see advantage in the government department involvement because they have different perspectives on science. The Research Councils are there with a particular agenda for looking after the quality of science in an international

perspective with, you might say, very much a quasi-academic role. The government department has, as you have said, a policy direction. It also has an industry to which it is, in some senses, attempting to deliver science information. I think that perspective is important.”²⁴⁵

Professor Dalton also counselled against such a move, saying that it was not “necessarily the right approach to have all their core funding from BBSRC”.²⁴⁶ **There clearly is value in having direct interaction between a government department and the RCI sector and we look to Defra to put its relationship with the RCIs on a proper footing in order that the full benefit of this linkage may be realised.**

245 Q 163

246 Q 177

6 Restructuring of individual RCIs

Introduction

98. The nature of the sector is such that there is continual review, renewal and restructuring of institutes. Some institutes are expressly established for a limited time period or to fulfil a particular remit after which they may be disbanded. It is also the case that in order to ensure that the sector remains vibrant and able to play an effective part in achieving the strategy defined by the Research Councils, there will have to be changes, including closures and mergers. NERC told us that “for the longer-standing RCIs in particular, this means that as NERC’s (and external) requirements change, centres must change accordingly in order to remain responsive, fit-for-purpose and cost-efficient”.²⁴⁷ It may also be that the structure, rather than the science, of an institute is no longer working appropriately. BBSRC, for example, raised the issue of the critical mass of an institute, with Professor Goodfellow telling us that “some of the institutes, once they go below a certain size, will find the infrastructure costs are going to be too high for the amount of science you are getting”.²⁴⁸ BBSRC have “a rule of thumb that by the time you get to below about two hundred people [...] we worry very much about sustainability”.²⁴⁹ This is the key driver in the reorganisation of the Roslin Institute which we examine below.

99. All the Research Councils have substantial experience of restructuring their institutes. For example, the MRC told us that it “actively manages its portfolio of institutes and units, closing and reconfiguring them as scientific and strategic needs dictate”.²⁵⁰ In the last six years, the MRC has closed 12 units and opened or restructured seven.²⁵¹ Professor Goodfellow from the BBSRC told us that such a move

“normally comes from our board looking at the broad picture, trying to get the balance between what we are doing in institutes and what we are doing in universities then looking at the institutes and asking how we can make them fit for purpose. Are we spending our money too thinly? Are we getting the quality of science we want? We do this on a regular basis. It normally comes out of long term planning.”²⁵²

The Council had closed the Silsoe Research Institute in March 2006 because “the area of science was not high priority for us or the UK; it was agricultural engineering and there is not really any agricultural engineering in the UK and the quality of the science had been assessed two or three times over an eight year period and was not at the level we were happy with.”²⁵³ The possibility of restructuring, then, is something institutes face every time their activities are reviewed and it forms an important part of their relationship with

247 Ev 142

248 Q 51

249 Ibid

250 Ev 134

251 Ibid

252 Q 18

253 Q 17

their parent Councils. In this chapter we examine three very different examples of current restructuring processes, one by each of BBSRC, NERC and MRC, to see what general lessons may be learned.

BBSRC and the Roslin Institute

100. The Roslin Institute, based in Scotland, conducts research into livestock genetics, breeding, welfare and biotechnology. Its most famous success was the production of Dolly, the cloned sheep. BBSRC plans to close the current site of the Institute and move it to a new £65 million+ facility on the Easter Bush campus of the University of Edinburgh where it will be brought together with researchers from the Neuropathogenesis Unit of IAH and the Royal (Dick) School of Veterinary Studies, with the possibility of additional livestock researchers from the Scottish Agricultural College. The aim is to create “the world leading centre for research in animal bioscience”.²⁵⁴

101. From the evidence we have received, it appears that there is little opposition to this plan. Professor Goodfellow told us that “both BBSRC and the governing body of Roslin see that it is not sustainable in the long term with the number of people there are at the moment.”²⁵⁵ Other contributors to this inquiry welcomed the move or at least saw it as inevitable. The University of Leeds considered that “Roslin, although it has done valuable work, may have become too complacent”²⁵⁶, and a fierce opponent of a different restructuring project told us that the institute “managed to keep a good reputation because of a few very high profile pieces of work” but it suffered from receiving its funding from a variety of sources.²⁵⁷ This led to a mixed mission “with only about 50% of the institute carrying out basic research and the rest doing translational or applied research”.²⁵⁸ No real regret was expressed about its fate, and we conclude that this is an example of a welcome restructuring which should rejuvenate the Roslin Institute. There is a clear justification for change and for the selected outcome.

102. We also have reason to be confident about the ability of BBSRC to see through the restructuring process in an efficient and supportive way. When we asked BBSRC institute directors about their experience of working with BBSRC through restructuring of their own centres, the response was unequivocally positive. Professor Shirley of IAH, for example, praised the Council for the “high quality” assistance which it provided.²⁵⁹ Our one concern is that we should like to see greater attention paid to keeping track of what happens to the skills base once an institute is disbanded or reformed. At present there seems to be no robust system for doing this in any detail or even at the level of ensuring that the whereabouts of key expertise is known. Professor Goodfellow told us:

“It is quite difficult to get the data for that, for what happens to people. We have been monitoring the process as formally as we can—which is really very informally—

254 Ev 122

255 Q 51

256 Ev 82

257 Ev 87

258 *ibid*

259 Q 119

about the Silsoe Research Institute. We did make considerable efforts to provide resource for them and consultation to help them get jobs elsewhere. We did move some people on, so areas that we certainly saw as important we found homes for in the system (one was within a vet school and another within an institute). We do know informally that a lot of them have got jobs in the system; quite a large percentage of the scientists have actually gone on to other jobs.”²⁶⁰

The position is similar in the other Research Councils. We accept that it can be difficult to keep track of people and that employees are under no obligation to tell their previous employers of future career moves. We also recognise that at a time of restructuring the institutes themselves are probably overstretched in terms of human resources expertise and therefore are not best placed to undertake exit interviews and follow-up monitoring work. Nevertheless, we believe that this would be an invaluable exercise and one which would better inform our picture of the true health of the UK’s skills base. **We recommend that the Research Councils develop methodologies to track the immediate career paths of scientific staff employed at RCIs which are restructured and then use this data to inform future decision-making processes on restructuring.**

NERC and the Centre for Ecology and Hydrology

Background

103. On 6 December 2005 NERC announced proposals for restructuring the Centre for Ecology and Hydrology (CEH), under which five of its nine sites would close and staff numbers would be cut by 200 from the current 600. Following public consultation and a generally hostile reaction, these proposals were watered down. The same four sites were to remain (Lancaster, Bangor, Edinburgh and Wallingford) but NERC increased its funding allocation to CEH by £1.3 million to £16.3 million per year and also revised upwards its targets for commissioned research income, giving the CEH a total annual budget of just under £30 million.²⁶¹ As a result, projected staff redundancies were reduced from 200 to 160. NERC declared that these changes meant that “CEH now has the resources to meet its core business for NERC (monitoring and survey of national and international significance) and for delivering on key areas of public policy interest, such as: flood risk, weather extremes due to climate change, halting the decline in biodiversity, sustainable land management under CAP reform and assessments of renewable sources of energy”.²⁶²

104. Professor Thorpe explained that there were three driving forces behind the reorganisation:

“The first one was a result of our assessments roughly every five years of the future science programme of each of our centres. We assess those via peer review et cetera for the science quality and also the strategic fit to priority. That was a major one of the three. The second one was to try to focus CEH to bring teams together. Currently it is on nine sites and costing substantial amounts in infrastructure costs to maintain

260 Q 62

261 Ev 142

262 Ev 143

those sites. In order to bring scientists together the new plans are for four sites. The third reason ... the recent trends of external income which for CEH amounts overall to about 40 per cent of its total income. It was not one of those three, it was all three together, very much driven by our council and driven by the agenda of putting CEH into a long term sustainable position.”²⁶³

The “recent trends of external income”, referred to by Professor Thorpe, are a general decline in commissioned research income.²⁶⁴ The Director of CEH, Professor Nuttall told us that an analysis of the Centre’s historical records on external funding in 2005 “showed a decline in funding from Defra and a very sharp decline from the Environment Agency and also from DfID as well”.²⁶⁵ Although this decline, especially from Defra, was highlighted in written evidence to the Committee as a primary factor in the CEH’s difficulties,²⁶⁶ Professor Nuttall was keen to point out that part of the difficulty had arisen from the fact that CEH had been originally created in 1994 “on a political imperative”, rather than “on the basis of a business plan or any strategic plan” and that “the deciding factor [on the timing of the changes] was when the money became available” for restructuring.²⁶⁷ She also reassured us that “I would say that it is not totally NERC that has been the driving force. The senior management in CEH has realised that we needed to change to be sustainable”.²⁶⁸ The CEH supported the changes because they would “give us greater flexibility and greater critical mass as four sites instead of nine”.²⁶⁹ We note that NERC has previously acknowledged a fourth factor in the restructuring, which was NERC’s strategic aim to move 10% of its funding from NERC institutes to universities.²⁷⁰

105. In the NERC consultation on the proposals, some 99% of the 1,327 responses were critical of the Council’s plans. The main concerns were a loss in national research capacity on biodiversity and climate change, fears over staff departures and that long-term monitoring work would not be continued. We received evidence on all these issues. For example, the British Ecological Society (BES) reported its initial concerns about the maintenance of long term monitoring and the loss of expertise, although it welcomed reassurances from NERC on these issues and the announcement of £2 million funding for collaborative work with external partners.²⁷¹ BES also drew attention to the concerns of CEH staff about the lack of vision for the four remaining sites.²⁷² There is also the matter of the cost: transition costs are estimated to be £43 million over the four year period, whilst the move to four sites is expected to deliver annual savings of £7 million. The union

263 Q 19

264 Q 11

265 Q 275

266 Ev 85

267 Q 258

268 Ibid

269 Q 247

270 Information from the Research Councils

271 Ev 85

272 Ev 86

Prospect argued against the spending of £43 million in order to offset an annual deficit at CEH of £1.2 million.²⁷³

The current position

106. Professor Nuttall gave us an update on progress in the restructuring process in her evidence of 12 December 2006. Following the publication of an implementation plan for the period 2006 to 2010 detailing the work to be undertaken by the four science programmes and supporting structure, “a milestone” had been passed “at the beginning of November when we were able to tell most of our staff what roles they would have in the future CEH”.²⁷⁴ The Dorset site would close on 1 June 2007, leaving just “a small group located somewhere down in the South West in order to undertake the Countryside Survey”. New facilities were to be built on the Wallingford and Edinburgh sites to house relocated staff. The need for building work was “a time-limiting factor for some of the moves”, with others delayed because “the science, particularly the Countryside Survey and an Environment Agency audit which is related to the Water Framework Directive, requires that people are in place at some of the closing sites for a defined period.”²⁷⁵ Professor Nuttall also told us that although “I do not believe morale is now rock bottom ... I would not say morale is great; it is for us to move with staff and get them involved as much as possible in building the future.”²⁷⁶

107. The story of the restructuring of CEH is not yet complete and there are several issues still to be resolved. At this stage we have three main concerns arising from the experience at CEH which we wish to draw out in more detail: first, the adequacy of NERC’s consultation process and what lessons can be learned from this; secondly, the preservation of science and skills during a restructuring process; and thirdly, how Government departments can influence the decisions of Research Councils to restructure RCIs where they have a direct interest in the science.

Consultation processes

108. It is inevitable that proposals to make such major changes as those proposed by NERC in connection with the CEH are not going to be welcome to many people. This was reflected in the strength of feeling which came through some of the written evidence we received on this subject.²⁷⁷ However, there was also a clear perception that NERC had not handled the announcement and subsequent consultation in a manner which would mitigate the innate difficulties of the situation. The vote of no confidence in the Director of CEH reported by the Biosciences Federation reflects that perception, as does the Federation’s concern in June 2006 that “Six months after announcing plans to reorganise it is still unclear what science will continue and what will end” and its conclusion that “The

273 Not printed

274 Q 280

275 Ibid

276 Q 284

277 Eg Ev 183

skills and experience needed to undertake a successful reorganisation on this scale are not present within NERC”.²⁷⁸

109. We asked the Chief Executive of NERC what he had learned about consultation from this experience. Professor Thorpe told us that “it was certainly the case with CEH that much of this was in the public domain so there has been quite a protracted period of uncertainty for staff which I regret ... I feel that to have rushed it would have been the wrong thing to do but I think it is tough because of that period of uncertainty.”²⁷⁹ As we heard from Professor Nuttall, this period continued for a further five months after these comments were made until November 2006, nearly a year after the initial announcement. Professor Thorpe agreed that it would be better to move towards the BBSRC’s emerging approach of “much more open consultation”.²⁸⁰ **We recommend that all Research Councils adopt a best practice approach to consultation on restructuring which is as open as possible with those affected within the institutes.** We return in our discussion on National Institute for Medical Research to whether the Research Councils have the necessary expertise to handle consultations and restructuring projects of this size without additional assistance.

Preserving science and skills

110. The importance of the work undertaken by CEH was underlined by evidence to this inquiry, including that submitted by the University of Leeds who wrote that “there is a considerable amount of work which needs to be done for which a CEH-type infrastructure is essential, such as the long-term monitoring of ecological change”.²⁸¹ We have referred elsewhere to the need to ensure that such work is protected when institutions change in order that future generations of scientists may benefit from long-term sequences and datasets. In the case of CEH, we note that it was recognition of the possibility that the changes could result in datasets and monitoring work being put at risk which led to NERC Council increasing funding for these areas after the initial announcement.²⁸² We remain concerned, however, that there are areas of science which will be lost in this restructuring. Professor Thorpe told us that in drawing up the science plan NERC had “looked at not only what CEH is going to be delivering but also where the areas that are not going to be done within CEH where they will be delivered elsewhere”.²⁸³ When pressed, he admitted that he did not know “the complete plan yet” of what science will be lost because discussions with staff had not been concluded but he also told us that “scientists who do not want to stay with CEH are staying within the UK and within the field”.²⁸⁴ Therefore, there would not be a loss of science to the UK as a whole as a result of the CEH restructuring process.

278 Ev 101

279 Q 21

280 Qq 21–2

281 Ev 82

282 Q 110

283 Q 100

284 Q 62, Q 102

111. Six months later, the CEH Director had far less comfort to offer on this point. We asked her first about the retention of staff at the renewed CEH since it is this that will largely determine exactly which areas of scientific expertise are retained. She told us that “in total we are losing more staff than we want to lose, 224 at the last count”.²⁸⁵ This is in excess of the 160 planned redundancies because when a site is closed, all staff are entitled to count themselves as redundant and leave if they do not wish to relocate. The Director told us that as a result “we are currently anticipating having to recruit just over 70 staff”.²⁸⁶ It is not known whether all these staff will stay in science but Professor Nuttall accepted that “at least one is going abroad; some are just going to take the generous redundancy terms and have some time off”.²⁸⁷ Of particular concern is the fact there were 77 staff who were identified early on as having “unique skills” and whom CEH “critically needed going forward in order to deliver our implementation plan” and of these, “eight have said that they will not stay with CEH and five are as yet undecided”.²⁸⁸ More worryingly still, Professor Nuttall told us that she could only be “75 per cent confident” that the restructuring process would not lead to a loss of science in the UK as a whole.²⁸⁹ She clarified in follow-up evidence that “it is likely that the CEH restructuring process willacerbate the loss to the UK of science expertise in freshwater ecology”, necessary to inform legislation and policy including the EU Water Framework Directive.²⁹⁰ We note that this risk is in addition to seven areas of science which will be lost to CEH itself and a further eight that will be reduced.²⁹¹

112. We are strongly of the view that when restructuring of an institute is mooted by a Research Council, steps should be taken to identify key science programmes which must be preserved. It should be a priority aim in developing business plans that all such science highlighted in this way is helped to find a placement within the UK science base in order that national capacity is not lost as a casualty of the restructuring of an RCI. We recommend that the Research Councils organise their future strategic plans on this basis and also invite views on such nationally important capabilities when undertaking consultations on the restructuring of particular institutes. In the case of CEH, we recommend that NERC prepare and publish an analysis of key skills and capabilities at CEH prior to the reorganisation, together with an indication of how these will be affected by the changes and, where applicable, how they will be replaced elsewhere within the UK.

Government influence

113. The Government’s memorandum to this inquiry stated baldly that progress on reorganisations involving RCIs “are matters for individual Councils”.²⁹² Nevertheless, we

285 Q 286

286 Q 289

287 Q 291

288 Q 295

289 Q 302

290 Ev 190

291 Ibid

292 Ev 81

are interested to note that Defra has intervened in the consultation process over the future of CEH. For example, Defra contributed to NERC's consultation on CEH as a key stakeholder and in response to a question from the Environment, Food and Rural Affairs Committee in June 2006, the Minister of State (Climate Change and the Environment) wrote that "Defra supports the need to establish a sustainable CEH" and that "we acknowledge the risks in the restructuring and delivery in a number of science areas and the impact of these will need to be monitored carefully in the light of the benefits to the wider climate change and R&D effort".²⁹³ These views were made known to NERC and Defra believed them to be a factor in the decision by NERC Council "to strengthen biodiversity and climate change research in areas that we [Defra] highlighted were of key importance to us."²⁹⁴

114. This situation is not unique. For example, where BBSRC institutes are concerned, the Minister of State (Climate Change and the Environment), Defra told the EFRA Committee in June 2006 that "We are working with IGER to ensure that it is able to match its skills to our needs both now and in the future".²⁹⁵ However, there are limitations on what a department can do to preserve its own science needs under the current arrangements. Professor Dalton told us:

"We are in a position of being able to provide and give them information and advice as to what is important for us. If, on the other hand, the research councils decide that it is not for them and they want to go on and do something else, then that is entirely up to them, but we would certainly be active in engaging in trying to persuade them to do otherwise, but I cannot tell them precisely what to do, I am not their master."²⁹⁶

We recognise this but we are pleased to note this proactive attitude on the part of Defra and we hope that the recommendations earlier in this Report on improving co-ordination on strategy will provide a platform for raising and resolving such issues.

Conclusion

115. There is a perception amongst some stakeholders, voiced most clearly by the Biosciences Federation, that the reorganization of CEH "is being driven by finance not by science".²⁹⁷ NERC's willingness to listen to reasoned objections and to alter its plans appears to have lowered the temperature of the debate somewhat, although serious concerns remain about loss of science, loss of people and the cost of the exercise in restructuring CEH. This is undoubtedly an area to which we will return in the future. **We urge NERC to provide us with regular updates on progress with CEH restructuring in order to inform our future deliberations on this subject.**

293 Eighth Report from the EFRA Committee, Session 2005–6, *Climate change: the role of bioenergy*, HC 965–II, Ev 181

294 Ev 175

295 HC (2005–06) 965–II, Ev 181

296 Q 191

297 Ev 101

MRC and the National Institute for Medical Research

116. We turn now to what has proved to be the most contentious aspect of this inquiry. We state at the outset that, like all those who have given evidence to this inquiry, including the MRC itself, we have no doubts at all about the quality of the science programmes at the NIMR, which indeed have been objectively evaluated in successive quinquennial reviews and reflected in awards and citations. It is in no way an institute in financial crisis or suffering from a drift in its scientific mission. We also firmly believe that what all parties—the MRC and NIMR staff, in particular—want to achieve is to provide the best possible contribution to medical research into the future. The dispute is over how the structure of NIMR needs to be adapted to meet this challenge.

Background

117. The NIMR has been based at Mill Hill, North London, since 1950, prior to which it had been located at Mount Vernon Hospital, Hampstead, for thirty years. It is currently organised into four major research groups (Neurosciences, Structural Biology, Genetics and Development, and Infections and Immunity), containing 18 specialised divisions. It is the largest of MRC's three institutes, with an annual budget of £34 million from the MRC (the seventh largest item of expenditure by any of the Research Councils in 2005–06)²⁹⁸ and approximately 700 staff, including directly supported staff, externally funded staff, fellows, students and visiting workers. Its past achievements have included the discovery of the influenza virus; the isolation and determination of the structure of penicillin; the elucidation of the structure of immunoglobulin; and the discovery of the sex-determining gene. Current and future high-profile research programmes include stem cells and avian influenza.

118. In 2003 the MRC's Forward Investment Strategy Subcommittee recommended that the NIMR be moved to a university/medical school site at Addenbrooke's in Cambridge. The reaction to this report, especially among NIMR staff, was such that the MRC set up a task force to make recommendations to MRC Council on the future of the institute. In October 2004, MRC Council accepted the task force recommendations that the Institute should be renewed as a multi-disciplinary biomedical research institute with a mission to undertake basic and translational research in partnership and that it should be co-located with a university. Subsequently, MRC Council selected UCL as the preferred partner for NIMR, in part since UCL is in close proximity to a major hospital and has relevant university departments including chemistry and physics. Land for this purpose was identified and subsequently purchased on the National Temperance Hospital (NTH) site in Hampstead Road at a cost of £28 million (£13 million more than originally estimated).²⁹⁹

119. The Business Plan approved by MRC Council in July 2005 estimated a total capital investment of £320 million, with a net cost to MRC of £240 million, after allowing for UCL funding and the sale of Mill Hill. By December 2006, this had risen to a total of £367 million. At the start of the process the MRC sought approval from the OSI for £140 million of funding from the OSI's Large Facilities Capital Fund. The bid was well received and the

298 HC Debates, 8 January 2007, 317W

299 Ev 177

money notionally earmarked by the OSI, but the OSI and Treasury required a more detailed Business Case to be produced, with options setting out what could be achieved on the NTH site with a range of different levels of investment. This was expected to be put before the MRC Council initially in October 2006. It was delayed to December when it was announced that the decision would be delayed once more until March 2007 to allow the MRC to rewrite the Business Case in order to build up the case from the lowest option of 40% less than the original £320 million capital investment, rather than start at the top option and work down. The Treasury also insisted that the ‘do nothing’ option of staying at Mill Hill be included.

120. To add to these difficulties, MRC is also in the process of appointing a new Director for NIMR, to take over from Sir John Skehel, who retired in September 2006. The Directorship has been offered to Professor Scott Fraser who is currently Anna L Rosen Professor of Biology and Bioengineering at Caltech, USA. He has made it clear that acceptance of the appointment would be conditional on approval for the release of funds and for work on the new building to proceed. In the meantime, Sir Keith Peters, President of the Academy of Medical Sciences, Chairman of the Council for Science and Technology and former Regius Professor of Physic at Cambridge, is serving as Acting Director on a part-time basis.

121. In its Report on *The Medical Research Council’s Review of the Future of the National Institute for Medical Research*, published in February 2005, the previous Science and Technology Committee described the review process as “less than ideal” but recommended that MRC should pursue the Task Force recommendations, provided that it is “fully satisfied that the preferred bidder is highly likely to be able to match the ideal identified by the Task Force”.³⁰⁰ However, it noted that “MRC must be satisfied that the long term funding required to support the renewed institute in central London is likely to give a scientific return that exceeds that of the Mill Hill alternative. No less important is the need to ensure that any transition process does not do irreparable damage to the science being conducted at the institute.” It flagged up the possibility of leading scientists leaving NIMR in the transitional phase.

122. More pertinently to us perhaps, our predecessor Committee also concluded that “the debate over the future of NIMR has polarised opinion to a remarkable degree”.³⁰¹ Their report was severely critical of the attitude of “many senior staff” at NIMR who

“were more intent upon resistance than engaging with the process and too willing to characterise conclusions and intentions of the majority of the Task Force as evidence of the pursuit of a personal agenda by the Chief Executive. Their actions stopped only a little short of serious interference with the process and a deliberate attempt to undermine the position of the Chief Executive of their own organisation.”³⁰²

Shortly after that Report was published, this situation improved, with staff responding positively to the Task Force report and to the potential for further scientific collaboration

300 Fourth Report from the Science and Technology Committee, Session 2004-05, *The Medical Research Council’s Review of the Future of the National Institute for Medical Research*, HC 6-1, para 133

301 Ibid

302 Ibid, para 128

with UCL.³⁰³ However, the situation has now reverted to one which could be caricatured as open suspicion on the one side and uncompromising determination to pursue a set path despite all obstacles and objections on the other. We do not attempt to mediate between these two parties but to look at the best possible outcome for UK science from the undesirable position in which the MRC and the NIMR find themselves.

A renewed NIMR: the competing visions

123. Professor Blakemore described two drivers for the decision to move the NIMR from Mill Hill:

“one, the very long-standing commitment of the MRC to use its investment in its intramural programme to provide maximum benefit for the science that it supports. Part of that policy involves attempts to embed, wherever possible, within the university sector investments in units and institutes ... The second driver—and in some senses surely the primary one—is the scientific driver... There is a prevailing view, first of all that the biomedical sciences have new opportunities to move in a translational direction and to deliver benefits for healthcare more quickly and secondly that to achieve that requires close association between basic research, clinical research and other aspects of the translational process. We feel that is—that this is a view that is shared around the world—is best achieved by co-location between basic researchers and the broader scientific environment.”³⁰⁴

Professor Blakemore added that through the joint project with UCL, “we are aiming towards the most exciting institute for the future of the biomedical sciences in Europe, a place that people want to flock from the world to work in, a place that will set the standard for the combination of basic research and translational research to develop healthcare benefit.”³⁰⁵

124. The MRC/UCL vision is of a renewed NIMR based on a site “300 or 400 yards” from the main UCL campus but with “some parts of the institute literally embedded into other parts of the UC campus” and with “University College scientists working alongside MRC scientists” in the main building.³⁰⁶ This should increase interaction by MRC staff “not just with clinicians but with the physical sciences, with the social sciences, with mathematics and with computing.”³⁰⁷ From the UCL point of view, the Provost, Professor Grant saw the enhanced opportunities for these interactions as the key benefit to be realised from co-location.³⁰⁸ He also emphasised that for UCL “the whole point of the co-location would be for a much better integration of the science” and that it would not be acceptable to UCL either for Mill Hill to be simply relocated in a single building near the UCL campus or for the university to develop alongside the NIMR on its current site.³⁰⁹

303 Ev 184

304 Q 346

305 Q 362

306 Q 366

307 Ibid

308 Q 455

309 Qq 456-7

125. Despite the general welcome given to the outcome of the Task Force which recommended the move, this vision of how the institute and the university will be enmeshed with one another does not seem to have penetrated very deeply into the perception of other parties. Representatives of the staff at NIMR argued that translational research is “a mindset with the scientists rather than where we physically are”, especially given the increasing use of the internet and other electronic communication.³¹⁰ In addition, concern has been expressed anecdotally that co-location with one particular university or medical school will make it harder for the Institute to foster translational research with other institutions.

The proposed new site

126. Views have hardened as attention has focussed on the site chosen for the main building of the institute. The location of the former National Temperance Hospital (NTH) site was criticised by representatives of staff at NIMR for its distance from UCL, with the argument that “we would not benefit scientifically from being co-located on the NTH site about 15 to 20 minutes away from the University College hospital and even further to the UCL main campus”.³¹¹ Witnesses have also objected to the new site as being too small (0.35 hectares as compared to 19 hectares at Mill Hill) and too constrained in terms of its central London location with regard to planning permission, security and practical factors such as underground tube lines.³¹² Particular concern has been raised over the facilities which MRC will be able to provide at the NTH site and whether these will be inferior to those at Mill Hill or simply lacking altogether. A key example of this was the suggestion that the NTH site was not suitable for Level 4 containment laboratories which are necessary for work on highly dangerous pathogens.³¹³ Taken together with the evident pressures on budgets for the project, these concerns have led former members of the Task Force such as Richard Flavell to withdraw support from the proposals. He argued in evidence to us that “it was a very clear recommendation of the Task Force that relocation of the Institute was conditional on the move being able to provide a better partnership arrangement than could be achieved by the Institute staying at Mill Hill” and that “Moving the Institute did not, and does not, make sense unless it can be done properly so that it can deliver more than it can achieve in Mill Hill”.³¹⁴

127. We put the objections raised by opponents regarding the NTH site to the MRC, either in oral evidence or in writing. The Council’s responses are published alongside this report.³¹⁵ We do not intend to go into each of them in detail, although we would observe that the example of the category of containment facilities required by NIMR is an outstanding illustration of how misunderstanding and distrust can allow single issues to cause genuine concerns on one part and to create enormous unnecessary workloads on the other. The Mill Hill site currently has category 4 facilities. However, MRC told us that “we

310 Q 326, Q 328

311 Q 320

312 Eg Ev 184

313 Ibid

314 Ev 183

315 Ev 176–7, 194–5

will be applying for HSE CL3 facilities [for the NTH site]– which [...] is uncontroversial with both Camden [the relevant planning authority] and MI5.”³¹⁶ This sounds on the face of it as if a downgrading of facilities is needed to fit within the limitations of the new site. However, the MRC provided us with a file of correspondence containing 30 letters and emails over an eight month period which established that what is required for handling avian flu and other such pathogens is a facility classified as category 3 by the HSE under guidance from the Advisory Committee on Dangerous Pathogens (ACDP) but with a licence from Defra at level 4 under the separate Specified Animal Pathogens Order 1998 (SAPO).³¹⁷ The two regimes are intended first, in the case of ACDP to protect workers and prevent external release affecting humans and second in the case of SAPO to ensure that there is no environmental release, endangering wildlife. This interpretation was supported by the advice we received directly from HSE.³¹⁸ We are satisfied with the explanation from HSE on this issue.

128. It is important to note that the MRC readily accept that “it is unlikely that the NTH site could, within the restrictions of planning permission, provide a building sufficiently large to accommodate the whole of NIMR as it currently is, plus a significant number of UCL staff and expansion space”.³¹⁹ However, MRC would say that these objections miss the main point of the move which is to integrate the NIMR into UCL and not to reproduce it in either its current or a diminished form within central London. Professor Blakemore identified the key issue when he objected that “you paint a picture of the institute as it is now, and I think one of the problems we have got into is that there is a conception that the institute as it is now, or really as it was in 2003, which is what is defended, is inevitably the way it must be forever in the future”.³²⁰ Both the MRC and UCL share a vision of a new reformed NIMR, with access to the same level of facilities at present but physically interlinked with the university’s other departments. This is a policy which has found favour with by the OSI in the form of Professor O’Nions who told us that “I am very supportive of [the MRC] vision of co-locating medical research activity with clinical practice in universities and the Cooksey report supports that”.³²¹

Mill Hill site

129. The response of objectors to the perceived drawbacks of the NTH site is to champion the retention of the NIMR at Mill Hill. This site certainly has the advantage of size, and its location makes it more suitable perhaps for facilities with higher security concerns such as animal housing or laboratories dealing with highly pathogenic organisms. In addition, it would allow the NIMR to retain its close proximity to MRC Technology and there would be ample space available to encourage new institutions to move to Mill Hill to work alongside the institute. Money would have to be spent on the building. The MRC described Mill Hill as “a very old building that cannot meet all the standards of convenience,

316 Q 402

317 Ev 194

318 Ev 187–8

319 Ev 176

320 Q 366

321 Q 440

servicing, efficiency and flexibility that are expected in modern laboratories”.³²² However, the Step Change Option prepared by NIMR management in November 2004 estimated the cost of a renewed NIMR at Mill Hill to be £35 million, significantly less than the cost of the proposed move to central London.³²³

130. The MRC’s policy on the redevelopment of Mill Hill leaves no room for doubt. In October 2006, Professor Blakemore told the *Times Higher Education Supplement* that the Mill Hill site would close whatever happens to the application to the Treasury for funding for the move to central London.³²⁴ He explained to us that this was not an isolated view and that “the most unanimous feature [of the long-running review process was] that the Mill Hill site is simply inappropriate in the long run to deliver the vision of the science”.³²⁵ It was no doubt because of this that the option of remaining at Mill Hill was not included in the draft Business Case discussed with the OSI for presentation to the Treasury. Now, however, the Treasury has explicitly asked that it should be included. Mr Nick Winterton, MRC Executive Director, explained that the MRC “have to present an option which allows a comparison to be made so that a judgement can be made about the value of the capital investment compared to the MRC’s proposal”.³²⁶ This does not mean that retaining the NIMR at the Mill Hill site is back on the agenda. Should the Treasury refuse to grant MRC the money to fund the move to the NTH site, the MRC would “look at the other possibilities and options that were achievable within the funds we have available, but against the background of the Council having stated very clearly that its desires to pursue science could not be fulfilled in the long run on the Mill Hill site”.³²⁷

Communicating the vision

131. In many ways, this restructuring process has been an object lesson in how not to handle such a project. From the outset, with the publication of the forward investment strategy in 2003, staff have expressed the view that they have not been sufficiently consulted or kept informed of what has been going on. They have not been convinced of the case for any move from the Mill Hill site, and from a general acceptance of the proposed partnership with UCL, relationships with the MRC have again deteriorated in the light of both the developing difficulties over the NTH site (from its high price to the doubts over planning permission and its capacity) and the increasing concern over whether the Treasury will give any money at all. Despite Professor Blakemore’s outward confidence about the project in giving evidence to us in June 2006 and again in December 2006, as well as in his written evidence, the demand from the Treasury for the MRC to completely redraft its Business Plan suggests that the whole process is in serious doubt.

132. Speaking as an interested non-MRC party, Professor Spyer of UCL suggested that it was the lack of confirmed financing and hence of confidence that the project would proceed which had led to the fatal inability of MRC to sell the vision: “If we had been in a

322 Ev 177

323 Ev 182

324 “Research centre deal may collapse as costs spiral”, THES, 27 October 2006, p 5

325 Q 252

326 Q 353

327 Q 365

situation when the discussions began with an absolute certainty of the financial resource to complete the project actually being there and that we could have demonstrated immediately the real advantages (because the advantages that both Professor Grant and I have talked about are less tangible to people who are working in a very comfortable environment) I think the process would have been somewhat different".³²⁸ We agree that it would have been far easier for MRC and UCL to persuade staff at NIMR of their case if they could have presented firm plans for the new look institute. The long drawn out process of getting OSI and Treasury approval for the draft Business Plan, and the debacle of December 2006 when it was revealed that the whole process had to start again, has been at the heart of these problems. It is difficult to see how MRC management can avoid censure for this.

133. These problems could be rectified if there were mutual trust between the MRC and the NIMR. Instead, the two camps are as entrenched as ever. This can be seen by the dispute laid out in evidence to us over whether the setting of a two year rather than five year budget was an attempt to undermine the institution and on whether there was a cap on senior appointments. Both these matters were attributed by the MRC to the desire not to tie the hands of the incoming director. However, the continued delay in Professor Scott Fraser taking up his post, entirely due to the delays in deciding the future of the institute, is both a result of and a factor in the ongoing uncertainty over what will happen to NIMR. In this context we note that it was extremely unhelpful of Professor Blakemore to tell the press that Mill Hill would close whatever happened. We accept that Professor Blakemore meant that "the Mill Hill site would close" rather than the institute but given the unfortunate reliance by many parties on "Mill Hill" as a synonym for "NIMR", his words were open to misinterpretation and unduly provocative. **Having built up expertise and the scientific base at NIMR, it is important that this is used to the nation's benefit and simple closure of Mill Hill would be unacceptable.**

134. The sadness is that the excitement behind the MRC's vision and its coherence has been completely lost in its communication to staff. It seems to us that many, although by no means all, of the objections to the MRC plans are based on misconceptions which have been allowed to fester through too much rumour and not enough straightforward information. The impression has been left amongst NIMR staff and others that the MRC's continued pursuit of this path has been dictated by dogma and, in its latter stages, has been short-sightedly fixed on the NTH site and what that can deliver rather than the best possible institute to deliver the best possible science. This failure to communicate the MRC's clear sense of vision is both symptom and cause of the state of the relationship between MRC and Mill Hill.

Looking to the future

135. We appreciate the MRC Chairman's implied rebuke when he told us that "it is unusual in business, while you are conducting a very complicated and difficult assessment, to find yourself having to answer questions in the interim as you begin to develop a sound case".³²⁹ Nevertheless, this restructuring project has been under discussion for four years

328 Q 467

329 Q 362

and it is surely to the credit of the NIMR staff and management that the scientific reputation and retention of key staff has not suffered as a result of the painful uncertainty and constant distraction. Professor Grant of UCL went out of his way to praise the staff of NIMR for the way that they “have remained loyal to their institution and have been anxious to try and secure from us an outcome which is to the benefit of British science.”³³⁰ It is time to move forward to secure the renewed institute for medical research which is much valued and needed as part of the UK science base. Given the outstanding achievements and recognised excellence of NIMR, it would be foolish not to base a renewed institute on what has been built up so successfully over many years. We believe that all parties would accept that the renewal can mean beneficial change, rather than the simple translation of the existing institute to a new location. On the whole, we agree with the MRC goal to achieve closer links between basic and clinical research and between medicine and other disciplines. What we are less persuaded of is the interpretation of that vision in this case.

136. The first priority for MRC, UCL and NIMR itself must be to design the right institute doing the right research, with the ability to adapt rapidly to new demands. This entails a new mission to which all parties are prepared to commit themselves and a recognition, again on all sides, that in planning the new institute, one must start from the science, rather than the geography, and adopt a broader vision than before, including taking account of the Cooksey recommendations. We believe that there is much to be gained from partnership between UCL and a renewed NIMR. This does not necessarily demand a wholesale move of the Institute from its current site nor a commitment to the use of the NTH site with its obvious limitations in terms of size and location. We wish to see an end to this restructuring process in order that scientists and MRC administrators can concentrate on science once again and so we do not recommend reopening the entire project. **Rather, we should like to see the MRC use the information amassed during the process so far to develop a new plan for fostering a revitalised NIMR and increasing its translational research with stronger links with UCL, using the sites at both Mill Hill and the former NTH or another site which could command the approval of all interested parties. We are concerned that the NTH site on its own is inadequate because of its size, and we believe that the MRC should seek a site of sufficient capacity to meet the existing needs of the NIMR and allow for future expansion, in order to enable the development of a world class medical research institute and include MRC technology transfer activities on one site with enhanced access to the university.**

137. To do this, we believe that MRC will need to employ more specialist project management. Professor Grant refused to comment on the project management skills of the MRC as demonstrated throughout this process,³³¹ but the evidence clearly calls those skills into question. We note the indication from Sir John Chisholm that “once we have decided on the project and we have launched the execution of it, we will certainly need some outside assistance to ensure that it is properly, robustly managed and delivers according to the plan”.³³² However, the time for engaging such skills is now and **we recommend that the MRC conduct an urgent review of its project management needs and employ**

330 Q 476

331 Ibid

332 Q 396

expertise to fill the gaps as soon as possible. While we hope that these moves towards a fresh start, taking on board many of their concerns, would re-engage staff, we believe that there are further steps which should be undertaken in this regard. **We recommend that MRC adopt a new more open strategy to regular consultation and communication with staff at Mill Hill. We also recommend that the MRC reconvene the task force, which included staff representatives, to advise them on the way to proceed and to provide a forum for scientific and other interests to be expressed. This approach is essential if alternative arrangements involving either joint use of the NTH site and Mill Hill or the identification of a new site in London become the preferred option.**

138. Despite the controversy and the examples of behaviour which are open to criticism on both sides, there is reason to be confident about the ability of the parties involved to turn looming disaster into success. For example, Professor Blakemore did not instantly dismiss the suggestion that the task force should be reconvened, even if he “was not sure that would add constructively to the proposals at this stage”.³³³ Similarly, Professor Grant of UCL signalled a willingness to discuss other options if they were to be brought forward by MRC, such as a model with “part of [UCL] enterprise activity and other non-translational science activity might be located at Mill Hill and there might be a flow between the two”.³³⁴ Just as pertinently, the unions’ representatives assured us that “We accept that MRC has the right to make its own policy” and that “we are not against a move or a new institute, I think it is at the very beginning we do not believe the logic”.³³⁵ It is the responsibility of MRC management to ensure that the staff do see the logic and are prepared to work with the grain rather than against. It is obvious that the Treasury is more likely to be persuaded of a case presented by a united front than the current situation. It may take a change of management before the two sides are able to engage fully in this process but the task of creating a new medical research institute fit for 21st century science is too important for it to be lost in infighting and personal attacks.

General lessons

139. These three examples of restructuring projects involving RCIs are clearly extremely different but some general lessons can be drawn from them which may be applicable to other instances which may occur in the future. First, Research Councils need to have a clear idea of what they are trying to achieve and to communicate this effectively as early and confidently as possible to those affected. Secondly, they need the management skills to see the process through. Thirdly, we believe that there may be room for the OSI to take a more active role in overseeing and assisting RCI restructuring, as we discuss in the next chapter. **We recommend that the OSI satisfy itself that individual Research Councils have the capacity to manage significant restructuring projects where these occur and that the OSI ensure that assistance is available to the Councils for project management where deemed necessary.** Further restructuring projects are inevitable, given the nature of RCIs and their work, but we would hope that the experience suffered by NIMR and MRC, in particular, will not be repeated in the future.

333 Q 395

334 Q 457

335 Q 310, Q 340

7 Role of OSI

Responsibility for the health of the RCI sector

140. The Government’s memorandum to this inquiry states unequivocally that “individual Research Councils are responsible for determining the activities and funding for the Institutes they own and for deciding how much of their Science Budget allocation goes to each Institute”.³³⁶ However, the OSI has taken some responsibility for the overall system, with two major reports commissioned by the Government into RCIs: the Costigan report into governance and the RIPSS report on improving the sustainability and strategic coherence of the non-university public research sector.

141. Of these, the RIPSS agenda has become an important component of the relationship between Government departments and the RCIs which undertake commissioned work for them, and the OSI’s ownership of the RIPSS agenda offers the Director General of Science and Innovation an opportunity to monitor and influence the health of the RCI sector. Sir Keith O’Nions told us that the health of RCIs was a “crucial” issue for the OSI in terms of ensuring their sustainability within the UK science base.³³⁷ He then distinguished his responsibilities for “those Institutes that belong to Research Councils that are supported and financed through OSI and the DTI” from other public sector research establishments.³³⁸ Sir Keith maintained that the OSI had “a more direct involvement with those we finance”.³³⁹ In this chapter, we examine first the assistance which the OSI offers to RCIs through the Research Councils, followed by more overarching measures such as RIPSS and finally some proposals that have been raised with us to extend the OSI’s role as custodian of the UK science base.

Research Councils and RCIs

142. In addition to allocations to the Research Councils which form the basis of RCI core funding, the OSI provides direct assistance to RCIs through the public sector research exploitation fund which provides support for the commercialisation of public sector research, and the large facilities capital fund (worth around £100m per annum), designed to help Research Councils manage large and lumpy capital investments that they would otherwise find it difficult to fund from their standard allocations from the department, for example, the construction of facilities operated by RCIs or the redevelopment of the institutes themselves.³⁴⁰ Applications to this fund are managed by RCUK which draws up a large facilities roadmap of new facilities under construction and “potential large facility and equipment projects that the Government and Research Councils would like to see available to researchers over the next 10–15 years”.³⁴¹ RCUK then prioritises projects from the roadmap to put forward through the standard Office of Government Commerce (OGC)

336 Ev 78

337 Q 414

338 Q 415

339 Ibid

340 Ev 80

341 Ev 112

gateway process to a review of the full business plan and a recommendation to OSI for funding. This is the process in which the MRC's plans for NIMR are currently embroiled.

143. We asked the OSI about the effectiveness of the two main funds in assisting RCIs. Both had been subjected to recent evaluation, with a major report published by the National Audit Office into the large facilities capital fund.³⁴² The funds are greatly oversubscribed. Sir Keith O'Nions told us that bids were far in excess of the funds available for the large facilities fund, with a "broader part of the research spectrum now bidding".³⁴³ For example, ESRC had bid for funds to conduct a very large household survey whereas a more typical bid to the fund would be the CCLRC's Diamond Synchrotron or the MRC's proposed restructuring of the NIMR.

144. We also asked the OSI about their control of the Science Budget as allocated to RCIs by the Research Council. Sir Keith O'Nions asserted that "first and foremost I think it is a matter for Research Councils themselves to determine that balance between institutional investment and universities".³⁴⁴ However, he went on to say that "if we felt that there was demonstrably poor value for money in an institutional investment rather than spending it in another way, we would most certainly intervene".³⁴⁵ This would be done by "demanding higher performance in terms of their outputs" and "if we are really concerned about the sustainability of an Institute where we have information ... we would clearly intervene in requiring a statement from the Research Councils of what they were going to do to sort that out and when."³⁴⁶

145. We were very interested in this assertion of the willingness to intervene between Research Councils and RCIs on the part of the OSI. It is an important recognition of the fact that the health of an individual institute can be adversely affected by its own Council as well as by outside factors, and in such rare cases there may be an argument that the OSI is the only party which could act as an honest broker between institute and Council. We have seen the need for such intervention in the account of MRC's planned renewal of the NIMR.

146. The Management Statement agreed between each Council and the DTI makes the Chief Executive of each Council accountable and responsible to the DTI/OSI for the oversight of any institutes controlled by the Council, including a responsibility to ensure the proper maintenance of the infrastructure of such institutes and to assess their performance on an annual basis.³⁴⁷ In addition, Sir Keith O'Nions gave us two examples of how the OSI had given direct advice or assistance to Research Councils dealing with restructuring projects. The first of these was advice on the governance of RCIs, based on the Costigan report. The second level of guidance was to ask the Councils "to flag up areas where restructuring of Institutes is an important issue" in the process of allocating the

342 Q 434; NAO, *Big science: Public investment in large scientific facilities*, HC 153, Session 2006–07

343 Q 435

344 Q 436

345 Q 437

346 Q 438

347 Ev 80

Science budget so that financial provision could be made, as had been done in the case of NERC.³⁴⁸

147. The OSI is also working closely with the MRC on the preparation of its Business Case for the NIMR move. The DGSI saw his role here as “to give every encouragement and impetus, verging on the cattle prod, to get a proper professional business case on the table”.³⁴⁹ This falls some way short of a brokerage role between factious parties, as Sir Keith put it, but it is clear to us that an important part of any such Business Case affecting an RCI ought to be the impact on UK science and that the OSI is best placed to undertake such a role. This would be in keeping with the Office’s overall responsibility for the UK science base. **We support the OSI’s role in intervening where the sustainability of an RCI is in doubt and believe that this could usefully be deployed in cases of serious concern over the restructuring of an institute, without compromising the autonomy of the Research Councils. We also recommend that the impact upon UK science be expressly examined by the OSI when considering any bids for funding to assist restructuring of RCIs.**

The RIPSS agenda

148. we have discussed earlier the findings of the RIPSS report and its recommendations which stemmed from the view that “the long-term sustainability of this part of the science base required a number of issues to be tackled including low cost recovery, complex lines of strategic responsibility and low investment in physical infrastructure”.³⁵⁰ After the publication of the report in March 2006, the OSI took the agenda forward by establishing the Research Establishment Sustainability UK Forum where matters relating to the implementation of Full Economic Costing and the RIPSS guidelines can be discussed. This is chaired by John Neilson, Director of Research at OSI and includes representatives of the parent departments of PSREs. As part of its work programme, the OSI issued a newsletter and booklet in August 2006, updating PSREs and their strategic partners on progress in implementing RIPPS and highlighting good practice and development ideas. Much of the content of both of these documents was based on the first annual survey of sustainability in PSREs conducted in summer 2006, which was intended to provide a baseline against which to measure future progress. While the booklet and newsletter were fairly upbeat, comments on the monitoring process issued separately concluded that “there are serious concerns about the sustainability of something like a third of PSREs”, and that “there are serious concerns about a higher proportion of all PSREs, based on current known trends and uncertainties”.³⁵¹ The most significant areas of threat were identified as:

“PSREs which are failing to invest adequately to maintain physical infrastructure needed for research (and especially where they already have a significant proportion of old and unfit infrastructure);

348 Q 439

349 Q 448

350 RIPPS Update, Issue No. 2, Good Practice Supplement, August 2006, page 2

351 Quinquennial Review of the Grant Awarding Research Councils, OSI, 2001, 3.9, 3.11, <http://www.rcuk.ac.uk/cmsweb/downloads/rcuk/publications/qqr-s2.pdf>, 13 and 14

PSREs whose financial forecasts suggest that they have no financial headroom to deal with investment needs, research developments, and the uncertainties and risks that affect any research organisation;

PSREs which have real uncertainty about the level of commitment and continuity of support from a major research customer (future investment by Defra is a common factor in several of these due to a number of reviews currently underway);

PSREs which are concerned about ageing profiles of scientific staff with key skills, facing issues of succession planning, competitive salaries in the private sector attracting new entrants and in some cases under-skilled new graduate entrants.³⁵²

149. The RIPSS agenda gives the OSI a clear responsibility and, equally important, a recognised mechanism to exert its influence to protect the health of the RCI sector. Even Defra, which as we have seen has been accused of bad faith over its failure to implement RIPSS, has repeatedly stated that it “fully supports the agenda set by RIPSS”.³⁵³ The question therefore is how effectively the OSI can use RIPSS to persuade others of their interest in maintaining the sustainability of the RCI sector. Professor Sir Keith O’Nions agreed that through RIPSS the OSI “do have a role in looking at all of the Institutes and I think there is a quite a good procedure in place for flagging up the sustainability [to other departments which either own those Institutes or co-sponsor them in some way] and changing sustainability with time”.³⁵⁴ On the other hand, he queried “what role we have to change the behaviour of another department because clearly we do not have that responsibility”.³⁵⁵ He later explained that “we do not have the levers to force another department to change its policy”.³⁵⁶ This can be seen in the ongoing dispute between BBSRC and Defra over IGER and Rothamsted Research, in particular. It is clear to us that if the RIPSS agenda is to be more than a means of disseminating examples of good practice, then the OSI needs more powers of enforcement. We believe that it is an excellent initiative which could make a vital contribution towards the sustainability of an important part of the science base but so far it appears to have identified problems rather than to have solved them. **We recommend that the RIPSS agenda should be binding on Government departments and that the OSI be given responsibility and the means to intervene where it judges that a department is not fulfilling its responsibilities under RIPSS.**

150. Another important element of RIPSS is the introduction of Full Economic Cost (FEC). We note that there is also a discrepancy in the perception of whether or not FEC is paid at the moment. For example, BBSRC and MRC told us that they had both “been paying full economic costs on the research it funds in its RCIs for some time”.³⁵⁷ Defra, on the other hand, claimed that while it has been “paying 100% FEC”, the Research Councils “currently only pay 80% FEC, requiring contractors to find the extra 20% required to meet

352 Ibid, para 19

353 Ev 175

354 Q 421

355 Ibid

356 Q 422

357 Ev 163–5

their FEC of the research”.³⁵⁸ This is flatly contradicted by the IAH who told us that “when Defra funding is secured for a given piece of research, the level of funding does not reflect the actual costs of the research, as defined using the full economic cost (FEC) model introduced following changes to the funding of Research Councils grants”.³⁵⁹ They calculate that “the shortfall can be as much as 40%”.³⁶⁰ This matters in terms of the amount of science that can be done since, as BBSRC pointed out, “one of the impacts of Full Economic Costing ... is to raise the cost of research, ie there is less funding for more expensive research”.³⁶¹ **We recommend that Defra provide an explanation in the Government’s response to this Report of how the conflict of evidence over its payment of FEC arises.** Since it is too soon to assess the issue of full economic cost at this time, we intend to return to the subject as the evidence on its impact becomes clearer. We also note that the Sustainability Forum is designed to be the place in which the repercussions of the implementation of FEC might be discussed and mitigated, and we look forward to seeing how this works in practice.

Co-ordination of policy on RCIs and protecting the UK science base

151. The move towards greater oversight of the RCI sector exemplified by the RIPSS agenda suggests that the OSI could play a more central role in co-ordinating policy towards the RCIs. We have discussed earlier how there needs to be greater co-ordination between the policy needs of those players who wish to influence the strategy of individual RCIs. Witnesses to our inquiry have suggested that this could be taken further and that OSI could, for example, “have a role in informing the RCIs on likely future research requirements (horizon scanning)”.³⁶² Others identified a need for what Professor Crute described as “a regular dialogue between Research Councils and between government departments ... that rely upon Research Councils and their institutes to deliver things which are of policy importance, so that we can vision the future and make sure we do not have these gaps opening up where we can lose expertise or we have to bridge for long periods”.³⁶³ This was echoed by Professor Thorpe of NERC who called for “better and improved dialogue between key government departments”,³⁶⁴ especially when those departments and NERC are devising their individual science strategies.

152. Going further still, we heard suggestions that the OSI should take on a role as the champion and protector of UK science as exemplified by the RCIs. Prospect told us that “there is currently no effective central oversight or responsibility for the health of the nation’s science base” and that the impact of individual decisions by the Research Councils and government departments upon the national core scientific capability is not monitored.³⁶⁵ The BES suggested to us that the OSI could help in this regard by taking “a

358 Ev 175

359 Ev 180

360 Ibid

361 Ev 121

362 Ev 100

363 Q 158

364 Q 69

365 Ev 97

more strategic approach to ensuring that the UK has the scientific capacity to address pressing scientific issues as it is responsible for Research Councils and overseeing science in government”.³⁶⁶ We have certainly seen the need for greater monitoring as witnesses have pointed to the “gap [that] can open up between the sort of science the BBSRC is very keen to support and the science that gets supported by other funders, such as Defra”.³⁶⁷ Lord Rooker too pointed to the difficulties over who should fund an institute where the income streams from other areas have disappeared and it “has no other work, no other income stream, but it has some narrow area vital to the Government and to the public sector and a good thing for the public to own and buy”.³⁶⁸ This work needs to be maintained and protected or it will disappear and like the research conducted by RCIs characterised by CaSE as “partly funded on the basis of the need for background research that might very well prove useful in developing Government policy but which was not necessarily concerned with a single, easily identifiable political question ...by its nature, it is unlikely to be missed immediately, but sooner or later, the nation will lose (and regret the loss of) capacity in areas of research such as long-term environmental monitoring or into diseases that it happens to be unfashionable to study.”³⁶⁹

153. In some narrow areas the OSI already takes more direct responsibility for individual RCIs. For example, it is involved in the British Antarctic Survey review group set up by the Cabinet Office in 1987 to provide a mechanism at official level to tackle and clarify issues of BAS funding and the extent of its operations. This example was raised by the DGSi himself in evidence to us.³⁷⁰ However, it would be a major change to extend this approach across all RCIs and the national science base as a whole. This move would also not be universally welcomed: the University of Leeds, for instance, argued that “the OSI role should be an overseeing one, aimed only at ensuring best practice” and that “the question of whether in particular areas the national need is best met by RCIs or other funding routes is best left to the RCs”.³⁷¹

154. We agree that Research Councils should be allowed to decide on their own strategies and that Government departments should also have the freedom to decide and change their policy priorities. We do not consider that the OSI should have a vision for the number, type and structure of RCIs needed in the future. Rather, what concerns us is that some body should be charged with monitoring the impact of all these individual decisions on the science base as a whole. This would include a national register of facilities and of skills available throughout the UK. We accept Professor O’Nions’ point that the OSI do not have the levers necessary to be accountable for the sustainability of Institutes.³⁷² However, there needs to be a mechanism for the OSI to raise the alarm where the planned changes of one department or Council would have a detrimental impact on the work of another or on the UK research base as a whole. This could be, and no doubt to an extent, is done

366 Ev 85

367 Q 146

368 Q 185

369 Ev 89

370 Q 417

371 Ev 82

372 Q 427

informally but we should like to see a formal systematic process established. **We recommend that the OSI be given the responsibility, and the resources, to monitor the state of national research facilities and the skills base within the RCI sector and that a formal mechanism be devised whereby the OSI issues an impact assessment when a department sets a science budget or alters its priorities or spending decisions or a Research Council plans changes to one of its RCIs.**

8 Conclusion

155. Research Council Institutes play a vital role in UK science. In general, we believe that they have a distinct future apart from universities. Although there is often much to be gained from the embedding of individual institutes within higher education institutes, we are firmly of the view that this should be done on assessment of the case of each individual institute, rather than as a policy applied across the board. The difficulties we have examined at NIMR and other institutes highlight the importance of work they do and show that RCIs are central to UK research. Our inquiry has demonstrated the need for greater co-ordination on policy, particularly by Government departments, and firmer commitments by some departments to their research institutes. There is also a clear role for Research Councils to play in this. The RCI sector has a significant and idiosyncratic part in the science base of this country, and we should take all steps necessary to support it where the science it conducts is still relevant and effective.

Conclusions and recommendations

Relevant reports

1. We readily agree that there should be no blueprint for governance of RCIs simply because of their status and that appropriate arrangements should be tailor-made in each case. (Paragraph 10)

Importance of RCIs to Government

2. We conclude that the UK RCI sector makes a highly valued and unique contribution to national scientific capacity. (Paragraph 24)

Comparison with universities

3. We have received no evidence to support the view expressed by Lord Sainsbury in January 2006 that basic research should increasingly be done in universities, rather than separate research institutes. We believe that links between RCIs and universities at all levels should be actively encouraged but that each case should be judged on its merits and the form of each institute should follow the needs of the science. (Paragraph 32)

Research Council Funding

4. We believe that the best science should be supported by the Research Councils regardless of whether applications originate from universities or institutes, and that RCIs should not be barred from applying for responsive mode grants. (Paragraph 37)
5. We recommend that RCUK review its policy on eligibility of scientists in RCIs to apply to any of the eight Research Councils. To encourage interdisciplinary research, we recommend that there should not be a limit or bar to RCIs being able to apply to any of the Councils for funding. (Paragraph 38)
6. We are concerned by the experience of the Tyndall Centre in securing an extension to its funding and we expect the Research Councils to seek mechanisms to ensure that similar issues involving interdisciplinary research might be handled more effectively in the future. (Paragraph 39)

Government funding for RCIs

7. We recommend that the OSI examine mechanisms for identifying and providing guaranteed funding for nationally important datasets and long-term monitoring activities in order that this vital information will continue to be available to inform future research and policy. This would be particularly important in the case of closure of institutes where responsibility for such work may have to be transferred to a new body but it may also help to maintain the sustainability of existing RCIs by giving security of funding for part of their operations. (Paragraph 45)

8. We recommend that the Government examine the proposal that departmental research budgets, once set, should be ring-fenced for the spending period. (Paragraph 45)

Conclusions on funding

9. We consider that the balance between core funding and responsive mode funding available to RCIs works well at present and that there is no evidence that inappropriate levels of support are given to RCIs in preference to universities. We are also strongly of the view that core funding is the best way to ensure that an institute remains viable and capable of delivering its mission. We are concerned that the financial difficulties which have been experienced for some time by certain BBSRC and NERC institutes indicate that not all stakeholders are prepared to acknowledge the part they have to play in ensuring the sustainability of this part of the research base. (Paragraph 48)

RCI management

10. It is a major advantage of individual institutes that they take responsibility for strategy in unfashionable high risk areas of science but they cannot be expected continually to reallocate ever diminishing resources to maintain capacity without recognition of the vital role they are playing in doing so (Paragraph 54)

Research Councils and strategy

11. Given the range of different institutes encompassed under the umbrella title of “RCI”, we agree that general moves towards harmonisation of practice would be impractical and non-beneficial. (Paragraph 61)
12. We recommend that the Research Councils review their mechanisms for developing and encouraging best practice in relation to RCIs, both on the part of the Councils and also between the institutes themselves. (Paragraph 63)
13. We recognise that reviews are a necessary part of ensuring that public funds on research are spent in a cost-effective and transparent way. In organising reviews, however, the Research Councils should have regard to adopting processes which maximise efficiency and minimise the cost to RCIs, both in terms of financial cost and staff time. (Paragraph 67)

Role of RCUK

14. We believe that RCUK could play a greater role in the harmonisation of best practice of the work of the Research Councils in relation to their RCIs through establishing similar mechanisms to those used for knowledge transfer in the wider Research Council context, and we recommend that these possibilities be explored. (Paragraph 70)

Government influence

15. Government departments must undertake to give as full and as early notice as possible to RCIs of their likely research requirements over a three to five year period in order that the institutes may be able to fulfil the nationally-strategic role expected of them. (Paragraph 73)

Co-ordination

16. We recommend that the OSI take the lead in examining the benefits of establishing similar bodies to the Environmental Research Funders Forum in other areas to ensure that Research Councils and Government departments and others work together in devising strategies for the work to be undertaken by RCIs and the public sector research base. (Paragraph 76)
17. We recommend that the OSI be given formal responsibility for developing a mechanism for better two-way dialogue between the Government departments and the RCI sector and their parent Councils in order to improve co-ordination of the strategic direction of RCIs and to protect national scientific capabilities in strategically important areas. (Paragraph 77)

Defra's view

18. We believe that Defra's attitude in relating RCI funding to short-term contracts in universities shows a fundamental lack of comprehension of the role of RCIs as represented by the OSI and the rest of the science community. As we have repeatedly observed, it is the stable long-term funding which allows RCIs to achieve their potential and keep focussed on their missions. It is deeply disturbing that such a key player as Defra fails to perceive this and believes that the RCIs should be identical to universities in terms of their long-term planning. (Paragraph 92)

The way forward

19. We recommend that Defra catalogue all the science programmes and infrastructure made available to it by RCIs, both on a regular basis and in emergencies, and clarify how this capacity need could be met from elsewhere in each case. (Paragraph 95)
20. We recommend that Defra review its processes for giving adequate notice to RCIs of changes in policy requirements and thus in research contracts. We recommend that this be done as part of a three to five year strategy to allow institutes and the BBSRC to plan their response and to ensure that the RCIs are able to supply the science that Defra needs. (Paragraph 95)
21. We recommend that Defra make it an absolute priority to reach agreement with BBSRC on the implementation of RIPSS and to report back to the Committee by the time of the Government's response to this Report on the steps they have taken to secure agreement. (Paragraph 96)
22. There clearly is value in having direct interaction between a government department and the RCI sector and we look to Defra to put its relationship with the RCIs on a

proper footing in order that the full benefit of this linkage may be realised. (Paragraph 97)

BBSRC and the Roslin Institute

23. We recommend that the Research Councils develop methodologies to track the immediate career paths of scientific staff employed at RCIs which are restructured and then use this data to inform future decision-making processes on restructuring. (Paragraph 102)

NERC and the Centre for Ecology and Hydrology

24. We recommend that all Research Councils adopt a best practice approach to consultation on restructuring which is as open as possible with those affected within the institutes. (Paragraph 109)
25. We are strongly of the view that when restructuring of an institute is mooted by a Research Council, steps should be taken to identify key science programmes which must be preserved. It should be a priority aim in developing business plans that all such science highlighted in this way is helped to find a placement within the UK science base in order that national capacity is not lost as a casualty of the restructuring of an RCI. We recommend that the Research Councils organise their future strategic plans on this basis and also invite views on such nationally important capabilities when undertaking consultations on the restructuring of particular institutes. In the case of CEH, we recommend that NERC prepare and publish an analysis of key skills and capabilities at CEH prior to the reorganisation, together with an indication of how these will be affected by the changes and, where applicable, how they will be replaced elsewhere within the UK. (Paragraph 112)
26. We urge NERC to provide us with regular updates on progress with CEH restructuring in order to inform our future deliberations on this subject. (Paragraph 115)

MRC and the National Institute for Medical Research

27. Having built up expertise and the scientific base at NIMR, it is important that this is used to the nation's benefit and simple closure of Mill Hill would be unacceptable. (Paragraph 133)
28. We should like to see the MRC use the information amassed during the process so far to develop a new plan for fostering a revitalised NIMR and increasing its translational research with stronger links with UCL, using the sites at both Mill Hill and the former NTH or another site which could command the approval of all interested parties. We are concerned that the NTH site on its own is inadequate because of its size, and we believe that the MRC should seek a site of sufficient capacity to meet the existing needs of the NIMR and allow for future expansion, in order to enable the development of a world class medical research institute and include MRC technology transfer activities on one site with enhanced access to the university. (Paragraph 136)

29. We recommend that the MRC conduct an urgent review of its project management needs and employ expertise to fill the gaps as soon as possible. (Paragraph 137)
30. We recommend that MRC adopt a new more open strategy to regular consultation and communication with staff at Mill Hill. We also recommend that the MRC reconvene the task force, which included staff representatives, to advise them on the way to proceed and to provide a forum for scientific and other interests to be expressed. This approach is essential if alternative arrangements involving either joint use of the NTH site and Mill Hill or the identification of a new site in London become the preferred option. (Paragraph 137)

General lessons

31. We recommend that the OSI satisfy itself that individual Research Councils have the capacity to manage significant restructuring projects where these occur and that the OSI ensure that assistance is available to the Councils for project management where deemed necessary. (Paragraph 139)

Research Councils and RCI

32. We support the OSI's role in intervening where the sustainability of an RCI is in doubt and believe that this could usefully be deployed in cases of serious concern over the restructuring of an institute, without compromising the autonomy of the Research Councils. We also recommend that the impact upon UK science be expressly examined by the OSI when considering any bids for funding to assist restructuring of RCIs. (Paragraph 147)

The RIPSS agenda

33. We recommend that the RIPSS agenda should be binding on Government departments and that the OSI be given responsibility and the means to intervene where it judges that a department is not fulfilling its responsibilities under RIPSS. (Paragraph 149)
34. We recommend that Defra provide an explanation in the Government's response to this Report of how the conflict of evidence over its payment of FEC arises. (Paragraph 150)

Co-ordination of policy on RCIs and protecting the UK science base

35. We recommend that the OSI be given the responsibility, and the resources, to monitor the state of national research facilities and the skills base within the RCI sector and that a formal mechanism be devised whereby the OSI issues an impact assessment when a department sets a science budget or alters its priorities or spending decisions or a Research Council plans changes to one of its RCIs. (Paragraph 154)

Abbreviations used in the Report

AHRC	Arts and Humanities Research Council
BBSRC	Biotechnology and Biological Sciences Research Council
CEH	Centre for Ecology and Hydrology
CSA	Chief Scientific Adviser
Defra	Department for the Environment, Food and Rural Affairs
DGSI	Director General Science and Innovation
EPSRC	Engineering and Physical Sciences Research Council
ESRC	Economic and Social Research Council
E&IS	Evidence and Innovation Strategy
MAFF	Ministry of Agriculture, Fisheries and Food
FEC	Full Economic Cost
MRC	Medical Research Council
NERC	Natural Environment Research Council
NIMR	National Institute for Medical Research
OSI	Office of Science and Innovation
PPARC	Particle Physics and Astronomy Research Council
PSRE	Public Sector Research Establishment
RC	Research Council
RCI	Research Council Institute
RCUK	Research Councils United Kingdom
RIPSS	Research Council Institute and Public Sector Research Establishment Sustainability Study
RRes	Rothamsted Research International
UCL	University College London

Formal minutes

Wednesday 14 March 2007

Members present:

Mr Phil Willis, in the Chair

Dr Evan Harris
Chris Mole
Mr Brooks Newmark

Dr Brian Iddon
Graham Stringer
Dr Desmond Turner

The Committee deliberated.

Draft Report, *Research Council Institutes*, proposed by the Chairman, brought up and read.

Ordered, That the Chairman's draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 155 read and agreed to.

Summary read and agreed to.

Abbreviations read and agreed to.

Resolved, That the Report be the Fourth Report of the Committee to the House.

Ordered, That the Appendices to the Minutes of Evidence taken before the Committee be reported to the House.

Ordered, That the Chairman do make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No. 134.

[Adjourned till Monday 19 March at quarter past Four o'clock.]

Witnesses

Wednesday 28 June 2006

Professor Julia Goodfellow CBE, Chief Executive, Biotechnology and Biological Sciences Research Council, **Professor Colin Blakemore**, Chief Executive, Medical Research Council, and **Professor Alan Thorpe**, Chief Executive, Natural Environment Research Council Ev 1

Wednesday 1 November 2006

Professor Martin Shirley, Director, Institute for Animal Health, **Professor Ian Crute**, Director, Rothamsted Research, **Professor Chris Pollock**, Director, IGER (Institute of Grassland and Environmental Research) Ev 20

Rt Hon Lord Rooker of Perry Bar, Minister of State for Sustainable Farming and Food, and **Professor Howard Dalton**, Chief Scientific Adviser, Department for Environment, Food and Rural Affairs Ev 29

Tuesday 12 December 2006

Professor Patricia Nuttall, OBE, Director, Centre for Ecology and Hydrology, and **Professor Mike Hulme**, Director, Tyndall Centre for Climate Change Research Ev 40

Wednesday 13 December 2006

Dr Tony Holder, President of the local UCU Association (University and College Union), and **Eileen Clark**, Amicus representative and Chair of the local Trade Union Side (TUS), Union Representatives at NIMR Ev 50

Sir John Chisholm, Chairman, **Professor Colin Blakemore**, Chief Executive, and **Nick Winterton**, Executive Director, Medical Research Council Ev 55

Professor Sir Keith O’Nions, Director General of Science and Innovation, and **Mr John Neilson**, Director Research Base, Office of Science and Innovation Ev 65

Wednesday 24 January 2007

Professor Malcolm Grant CBE, President and Provost, and **Professor Michael Spyer**, Vice-Provost (Biomedicine), University College London (UCL) Ev 72

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18	Medical Research Council	Ev 173,176,194
19	Institute for Animal Health	Ev 179
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21	Dr Tony Holder, representative of NIMR staff	Ev 182,196
22	Professor Richard Flavell	Ev 183
23	Heads of Division, National Institute for Medical Research	Ev 183
24	Celia Cook	Ev 185
25	Health and Safety Executive	Ev 187
26	Professor Malcolm Grant, University College, London	Ev 189
27	Professor Pat Nuttall, Director, NERC Centre for Ecology and Hydrology	Ev 190
28	Eileen Clark, Amicus representative and Chair of local TUS	Ev 197

Reports from the Science and Technology Committee in the 2005 Parliament

Session 2006–07

First Report	Work of the Committee in 2005-06	HC 202
Second Report	Human Enhancement Technologies in Sport	HC 67
Third Report	The Cooksey Review	HC 204
First Special Report	Scientific Advice, Risk and Evidence Based Policy Making: Government Response to the Committee's Seventh Report of Session 2005-06	HC 307

Session 2005–06

First Report	Meeting UK Energy and Climate Needs: The Role of Carbon Capture and Storage	HC 578-I
Second Report	Strategic Science Provision in English Universities: A Follow-up	HC 1011
Third Report	Research Council Support for Knowledge Transfer	HC 995-I
Fourth Report	Watching the Directives: Scientific Advice on the EU Physical Agents (Electromagnetic Fields) Directive	HC 1030
Fifth Report	Drug classification: making a hash of it?	HC 1031
Sixth Report	Identity Card Technologies: Scientific Advice, Risk and Evidence	HC 1032
Seventh Report	Scientific Advice, Risk and Evidence Based Policy Making	HC 900-I
First Special Report	Forensic Science on Trial: Government Response to the Committee's Seventh Report of Session 2004-05	HC 427
Second Special Report	Strategic Science Provision in English Universities: Government Response to the Committee's Eighth Report of Session 2004-05	HC 428
Third Special Report	Meeting UK Energy and Climate Needs: The Role of Carbon Capture and Storage: Government Response to the Committee's First Report of Session 2005-06	HC 1036
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