



## Call for evidence: Nurse Review of Research Councils

### IES submission, April 2015

#### 1. Strategic decision-making

In general it is the view of the IES that the present Research Council system works well, facilitating world-leading research and innovation. However, based on observations from those working in the environmental sector, we make recommendations to enhance impact and effectiveness. As so many modern societal challenges are in some way linked with the environment, incorporating an appreciation of how environmental and human systems are interlinked with local and national strategic research planning would arguably be most beneficial.

##### *Adopting a systems approach*

- The Research Councils should be promoting ambitious, world-leading research which adopts and encapsulates holistic approaches to investigating and tackling societal challenges and problems. This is particularly important with regard to environmental problems, where both research funders and policy makers should recognise that natural systems are complex and interconnected. A systems approach allows researchers to develop a much more complex and nuanced understanding of human interactions with the natural world, based on an appreciation of the importance of feedbacks and thresholds.
- In other research areas also, adopting a more open, systems-based approach to research, and promoting interdisciplinary can offer new perspectives and enable a more detailed understanding of system dynamics (from the environmental to the economic).

##### *Supporting initiatives to coordinate data collection and environmental monitoring*

- Understanding how the natural environment is changing and assessing human impacts on the environment requires a certain amount of monitoring and measurements. To be of greatest benefit these measurements should develop into long-term datasets to enable better analyses of the changing environment. Currently we have measurements being made in the UK by central and local government, groups such as the Environment Agency, Universities, consultancies and special interest environmental groups. These measurements encapsulate different measurement methodologies and instrument standards and protocols and will vary in their sampling periods. There will however be a certain amount of overlap. We believe there is a need for a more coordinated environmental measurement strategy for the UK. Although currently this would not fall within the remit of the research council bodies themselves, there is an opportunity to enhance support for an organisation such as the UK Environmental Observation Framework<sup>1</sup>. If a coordinated monitoring strategy could be achieved this would save a significant amount of money at various levels of government and facilitate much more detailed long-term environmental analysis. Beyond the environmental sector, there may be other opportunities for RCs to target funding towards initiatives focused on the collation of open, accessible and standardised data, which facilitate better research and scientific analysis.

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<sup>1</sup> <http://www.ukeof.org.uk/>



### *Sustainable development*

- In the RCUK Strategic Vision it is stated that RCs will enhance the impact of the research they fund by “Focusing research to produce impact for a productive economy, healthy society and a sustainable world”<sup>2</sup>. We welcome this sentiment, but would support a more explicit integration of the sustainable development concept into the aims and vision of both RCUK and the individual RCs. Although RCs are non-departmental public bodies, in line with Government policy (“The government is committed to sustainable development”<sup>3</sup>), sustainable development should be a key principle underlying RC strategic planning and funding decisions.

## **2. Collaborations and partnerships**

- Further to the need to embed a systems approach in strategic planning, research which embraces interdisciplinarity is vital to understanding socio-environmental systems, and thus to tackling environmental and social problems. As has been increasingly recognised by large groups of leading international researchers, in particular from a growing school of ‘resilience thinkers’, understanding the ‘tipping points’ in highly inter-connected socio-ecological systems is vital<sup>4</sup> and studies have shown that “integrated studies of coupled human and natural systems reveal new and complex patterns and processes not evident when studied by social or natural scientists separately”<sup>5</sup>. As such, to deliver most impact, action should be taken to increase cross-Research Council collaboration, to deliver excellent interdisciplinary research which will improve our understanding of these complex systems.
- To promote innovation, we also consider it highly important to maintain flexible boundaries between Research Councils so that good ideas don’t get lost between institutions. This is important both strategically, at high level and day-to-day. It is the observation of our members in the Higher Education sector that currently, cross disciplinary research covering areas currently served by a number of different research councils is not always easily accessed via current calls.
- It used to be the case that there was a clear distinction between the type of research performed under government research contracts and those offered by the research councils. The more ‘blue-sky’ fundamental research was funded by the research councils while government commissioned the more applied research required to support government policy development. In more recent times this has not been found to be a useful model: it has been found that this structure can hinder the progression of new ideas from early stage research output to useful application. Although there are partnerships and various memorandums of understanding between government departments and specific RCs, there is a need to improve the connectivity between good fundamental research and much needed support for real world problem solving across all research

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<sup>2</sup> Research Councils UK Strategic vision (2011-2015) <http://www.rcuk.ac.uk/Publications/policy/StratVision/>

<sup>3</sup> <https://www.gov.uk/government/policies/making-sustainable-development-a-part-of-all-government-policy-and-operations>

<sup>4</sup> Folke et al. (2011) ‘Reconnecting to the Biosphere’ *Ambio* 40(7): 719-738.  
<http://link.springer.com/article/10.1007%2Fs13280-011-0184-y>.

<sup>5</sup> Liu et al. (2007) ‘Complexity of Coupled Human and Natural Systems’. *Science*. 317(5844): 1513-1516  
<http://www.sciencemag.org/content/317/5844/1513.full>.



areas. One possible way of enhancing this connectivity, which this review should explore, would be enabling organisations outside of the university sector including non-departmental public bodies, government agencies, research institutes and NGOs, which would be able to plan projects with more explicitly applied (but still excellent) research objectives and outputs, to directly access more RC funding.

- Of course, not all research will have clear or immediate application, and we recognise the important role of the RCs in supporting fundamental research. However, where there is potential application, these projects need to be undertaken in collaboration with users from the start. Such meaningful (as opposed to token) engagement still does not occur universally.

### 3. Balance of funding portfolio

No comment.

### 4. Effective ways of working

- For research (and therefore research funding) to have real impact (social, economic, environmental), knowledge exchange and transfer both within and outside the research community is vital. For successful knowledge exchange during investment and research planning as well as during and after research, all Research Councils need to engage with a wide network of stakeholders and experts, across government, professional bodies, research institutions and NGOs. Given the importance of interdisciplinary research and taking a holistic, systems approach to socio-economic and environmental problems identified above, this network is key, and it is also particularly important that cross-Research Council collaboration is fostered and expanded where possible.
- Professional bodies and their umbrella organisations (e.g. Society for the Environment, Science Council, Engineering Council) offer a way to engage with professionals in a wide variety of sectors. Engaging with groups of individuals dealing with the major challenges society faces in the daily work can have a very positive impact on the effectiveness and impact of research investment. Research has much greater and more efficient impact when mechanisms are in place to allow potential users to input at the beginning of, as well as during major projects. In many cases, these users may be members of professional bodies, which could be a valuable forum through which to organise grass-roots cooperation.
- For instance, in the environmental sector, bodies such as the Institution of Environmental Sciences represent a diverse range of environmental professionals, each operating to high professional standards and dealing with environmental problems in their areas of expertise. The IES seeks to connect these professionals with researchers and policy-makers to the mutual benefit of all.

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