

ENVIRONMENT, NATURAL RESOURCES AND AGRICULTURE RESEARCH STRATEGY

ROYAL SOCIETY OF EDINBURGH RESPONSE

Introduction

- 1 The Royal Society of Edinburgh (RSE) welcomes the opportunity to respond to the Scottish Government consultation on the Draft Strategy for Environment, Natural Resources and Agriculture Research 2022-27 (the Strategy).¹
- 2 The RSE has undertaken significant work in this area and engaged with Scottish Government over the development of the existing Rural Affairs and Environment Research Strategy for 2016-2021, including submitting a written response in 2014.²
- 3 When considering this response, Scottish Government may also want to reflect upon several papers published by RSE:
 - Environment Principles and Governance in Scotland (May 2019)³
 - Future of Scottish Agriculture Post Brexit (February 2019)⁴
 - Brexit and the Environment in Scotland (November 2018)⁵
 - Flooding (September 2017)⁶
- 4 The following response sets out key points the RSE wishes to stress regarding the Draft Strategy before providing brief responses to the consultation questions.

Context

- 5 The RSE welcomes much of what is contained in the draft Strategy. It is important, however, to place the Strategy in the context of the major challenges faced by Scotland and the wider world; and to ask whether these are sufficiently addressed by the document.

- 6 In 2019, the Scottish Government became the first administration in the world to declare a climate emergency, was one of the first countries to sign up to the UN Sustainable Development Goals in 2015, and just a few days ago published a Statement of Intent on Biodiversity⁷ setting out its priorities for tackling biodiversity loss. Similarly, Scottish Government has robustly outlined its view that withdrawal from the EU could result in adverse impacts on research and innovation in Scotland, and expressed deep concern over the health and economic implications of the ongoing COVID-19 pandemic across the world. This being the case, the RSE feels the Strategy could outline clearer links between these enormous challenges and the potential for how research on environment, natural resources and agriculture can contribute to addressing them.
- 7 With multiple crises hitting all at once, now is not the time for a “business as usual” approach which is apparent in some of the themes. There should be more emphasis on innovative research as a vehicle to finding the solutions to these challenges.

Research Themes

- 8 The RSE considers the 5 research themes set out in the Strategy to be reasonable and acknowledges that these may link well with existing government directorates and portfolios.

1 <https://www.gov.scot/publications/draft-strategy-environment-natural-resources-agriculture-research-consultation/>

2 https://www.rse.org.uk/wp-content/uploads/2016/09/AP14_04.pdf

3 https://www.rse.org.uk/wp-content/uploads/2019/05/AP19_06.pdf

4 https://www.rse.org.uk/wp-content/uploads/2019/02/RSE_Agriculture_SAC_Final.pdf

5 <https://www.rse.org.uk/advice-papers/scotlands-natural-assets/>

6 <https://www.rse.org.uk/advice-papers/flooding/>

7 <https://www.gov.scot/publications/scottish-biodiversity-strategy-post-2020-statement-intent/>

- 9** While there are significant benefits to the individual research themes, it is vital to acknowledge that many areas are cross-cutting and as currently structured, it is unclear that these themes will allow for and accommodate this. More work is required to ensure genuine linkages and joined-up thinking between the themes, particularly in terms of inter- and multidisciplinary research.
- 10** Areas including the health of soils, sustainable agriculture, salmon farming and understanding of and preventing zoonotic disease risks from wildlife (as well as domestic livestock) are examples of topics which would cut across themes and deserve significant attention in the Strategy. Strong connectivity to the wider (i.e. not just Scottish Government-funded) research landscape across Scotland and beyond is key and progress towards addressing the major challenges we face cannot be achieved without such linkages. Similarly, research which evaluates the social justice dimensions of environmental change and corresponding policy responses is a critical cross-cutting area, and ought to be included within, and supported across, the Strategy.
- 11** The natural capital approach is vital for understanding the real scale of benefits provided to Scotland, its businesses and its people through its rich natural assets. It is unclear how the evidence base supporting this will be integrated into decision making processes to ensure that resources are allocated efficiently and appropriately. The climate and nature crises are in many ways inseparable, and nature-based solutions are needed for both. The green recovery can be sustained by these, and depends on the very best and most robust evidence base.
- 12** The RSE also notes the extent to which the COVID-19 pandemic has shone a light on the importance of building national resilience in Scotland, including the need for rural communities to be more resilient. Indeed, the Society's Post-Covid-19 Futures Commission,⁸ which brings together leading thinkers and practitioners from across academia, business, public service and the creative arts, is leading a significant programme of work in this area.⁹ A specific theme on "Building Resilience" could add value to the Strategy.

Funding

- 13** The RSE notes with concern the proposals to move a proportion of resources from strategic research to responsive research. While the Society sees significant merit in the Responsive Research Fund (RRF) and acknowledges that such a venture will require at least the amount of resource it has been allocated, funding the RRF should not come at the expense of strategic research. Both types of research are vital to addressing the scale of the challenges outlined above, since they are interdependent. The impressive research response to COVID-19 in Scotland, including through the Strategic Research Programme,¹⁰ is a good illustration of an effective emergency response, underpinned by existing strategic research capacity and capability and highlights the need for an appropriate balance between the two.

Governance

- 14** The governance structure set out in the Strategy is unclear and potentially cumbersome. The scale of the challenges being addressed requires an effective yet nimble structure. The RSE would wish to see considerably more detail on how this would work in the final Strategy.

Measuring Impact and Horizon Scanning

- 15** Figure 2 in the Strategy links the 5 Research Themes together via a central theme of "maximising impact" which includes "knowledge exchange" and "horizon scanning" as offshoots. Scotland's research institutes and providers have shown that they are capable of responding to significant challenges by working independently, and collectively, to deliver impact. Having an impact, however, requires making something happen in the real world, not simply facilitating "knowledge exchange" or conducting "horizon scanning" as mentioned in the Strategy. Research takes place in the real world and for it to be truly impactful there must be tangible and demonstrable real-world benefits with a solid evidence trail.

⁸ <https://www.rsecovidcommission.org.uk/>

⁹ <https://www.rsecovidcommission.org.uk/themes/#building-national-resilience>

¹⁰ <https://www.sefari.scot/covid-19-response>

- 16** While the RSE acknowledges the importance of horizon scanning, it notes with caution that the current pandemic was a danger foreseen by many scientists for a significant period of time. Despite this, most of the world, including Scotland, was ill-prepared for the challenges we now face. As it is a core competence of all scientists to horizon scan their own field of expertise, the RSE welcomes the commitment to horizon scanning in the Strategy. The Society would, however, like to see greater detail as to how this Strategy will actually achieve better translation of such effort into preparedness and resilience for Scotland. The work being carried out under the KE and Impact Centre, SEFARI Gateway is delivering towards this goal.¹¹

Collaboration

- 17** A healthy research landscape requires strong collaboration and alignment of funders across Scotland. The Natural Environment Research Council (NERC) is rightly highlighted in the Strategy as a research partner, and there must also be collaboration with other funders, both within UKRI and beyond, including organisations such as the Wellcome Trust and Joseph Rowntree Foundation. As Scotland, as part of the UK, leaves the European Union, it will be more important than ever that wider opportunities for international collaboration are facilitated and pursued.
- 18** The RSE welcomes discussion of collaborative research in the Strategy but would like to see further details on the management of such research in the final document.

Question 1 Are the objectives and priorities set out in the strategy sufficiently clear?

- 19** The RSE broadly agrees with the objectives and priorities as set out in the Strategy. As stated in paragraphs 5-7, conducting research designed to address the significant and multiple crises we face, in particular in Scotland, must be the overriding priority.

Question 2 Are the objectives and priorities set out in the strategy sufficiently clear?

- 20** As discussed in paragraphs 8-12, while the Research Themes chosen are appropriate, the RSE would like to see much greater connectivity and linkages between them. This requires the embedding of societal dimensions in each theme. The Society also considers that a specific theme on “Building Resilience” could add value.

Question 3 Do you think the research strategy will enable us to get the best research and scientific evidence from the best providers?

- 21** The RSE supports a mixed model of research where universities, institutes and other research providers all contribute to a healthy research landscape. The main research providers are key in being able to undertake research that universities simply cannot. Sustainable long-term funding is imperative to underpin the financial viability of Scotland’s main research providers to enable them to leverage the additional income currently brought in through the internationally renowned scientists they employ.
- 22** The RSE also highlights the importance of Centres of Expertise (CoE) in emphasising collaboration and coordination of research effort across teams and welcomes the proposal for a Biodiversity CoE.

Question 4 Are the proposals for maximising impact appropriate?

- 23** As noted in paragraphs 15-16, there is significant impact coming from research, but this is not always being appropriately measured and evidenced. Greater clarity on the issues Scottish Government want to be addressed (including the climate emergency, biodiversity crisis, building resilience, and sustainable land use) could help those applying for funding to define their proposed impact pathways.
- 24** The current drafting appears focussed on documenting the present state of affairs in Scotland and should instead look to concentrate on the drivers of change. The Strategy could also benefit from placing greater emphasis on stakeholder engagement early in the process.

¹¹ <https://www.sefari.scot/about-us>

Question 5 Do you support the proposals on delivering our investment?

- 25** As discussed in paragraph 13, the RSE sees significant merit in the Responsive Research Fund (RRF) but does not wish to see its funding come at the expense of strategic research. Both strategic and responsive research are vital to achieving the optimal research landscape and additional long-term funding for both is required.

Question 6 How do you think the Responsive Research Fund (RRF) should be developed and operated?

- 26** The RRF would be best run through either the Centres for Expertise or SEFARI Gateway and the RSE would caution against establishing new mechanisms. Anything which adds additional complexity to the systems already in place would increase the overhead of running such as scheme and should be avoided.

Question 7 Do you support our aims in working collaboratively with other funding providers?

- 27** The RSE strongly supports the aim of working collaboratively with other funders, as set out in paragraphs 17 and 18. Better connectivity is needed across the research ecosystem to ensure areas such as forestry, fisheries and agriculture are all properly linked, especially given increasing international science, policy and practice interest in approaches such as nature-based solutions which consider social and ecological systems together.

Question 8 Do you support the new structure for Governance set out within the strategy?

- 28** As stated in paragraph 14, the Society is unclear on the value of the governance structure as currently proposed and would like to see additional clarity provided in the final Strategy.

Additional Information

Any enquiries about the Advice Paper should be addressed to Craig Denham (cdenham@therse.org.uk).

Responses are published on the RSE website (<https://www.rse.org.uk/>)

The Royal Society of Edinburgh, Scotland's National Academy, is Scottish Charity No. SC000470

Advice Paper (Royal Society of Edinburgh)
ISSN 2024-2694