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Note to universities:

This set of document is a template based on which the RAE Panels will develop the final version of the Panel specific Guidelines on Assessment Criteria and Working Methods (PSG) after the Consultation Forum in July 2024. Changes compared to the same set of PSG used in RAE 2020 are in blue.

The set of Biology Panel PSG is used as a specimen document in this consultation.

Note to Panel:

This template is prepared to facilitate your panel to develop the PSG for Research Assessment Exercise (RAE) 2026. Main text of this PSG template is drawn from the final version of the same PSG in RAE 2020.

In drafting the PSG for your panel, please in particular note the following:

(a) RAE 2026 has four canonical documents, namely:

- (i) Framework (announced in October 2023) - which sets out the overall framework of RAE 2026;*
- (ii) Guidance Notes (GN) (announced in July 2024) - which are built on the Framework and set out the detailed submission requirements, and general guidelines on assessment and other details;*
- (iii) General Panel Guidelines (GPG) (to be announced in around Q3/2024 tentatively) which set out the assessment guidelines to be followed by all the 13 Panels; and*
- (iv) PSG (the current one) which serve as a supplement to GPG and address issues relevant to the academic disciplines under the purview of the panel.*

(b) For consistency across, please do not amend the paragraph numbering, but Panels may add sub-sections to the paragraphs as necessary;

(c) Texts in black are the guidelines which should be followed by all the 13 Panels as far as possible, but minor refinement and adaptation could be made if they are necessary;

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(d) Texts in purple are for the Panel's deliberation. Please also refer to the "Notes to Panel" in rectangular boxes where the Secretariat has indicated the inputs required from your panel to complete these guidelines.

Some useful references can be found by clicking the links below in preparing the specific guidelines of your panel –

RAE 2026 Published Documents

(including the Guidance Notes and draft General Panel Guidelines)

<<http://www.ugc.edu.hk/eng/ugc/activity/research/rae/rae2026.html>>

RAE 2020 Panel-specific [Guidelines on Assessment](#) Criteria and Working Methods

<<https://www.ugc.edu.hk/eng/ugc/activity/research/rae/psg/rae2020psg.html>>

Research Excellence Framework (REF) 2021 in the United Kingdom (UK) Panel Criteria and Working Methods

<https://2021.ref.ac.uk/media/1450/ref-2019_02-panel-criteria-and-working-methods.pdf>

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Research Assessment Exercise 2026
Panel [01 – Biology]
Panel-specific Guidelines on
Assessment Criteria and Working Methods
(Template – July 2024)

Content:

Introduction
Section A: Submissions
Section B: Assessment Criteria: Research Outputs
Section C: Assessment Criteria: Research Impact
Section D: Assessment Criteria: Research Environment
Section E: Working Methods

Introduction

1. This document sets out the assessment criteria and working methods that the [Biology] Panel of the Research Assessment Exercise (RAE) 2026 will apply. It should be read alongside the General Panel Guidelines of the exercise. The provisions set out in this document serve as further elaboration and amplification on the assessment criteria and working methods as applied to the [Biology] Panel. In areas where no additional information has been specified, the provisions in the General Panel Guidelines will prevail and apply in the assessment process of the Panel. These guidelines do not replace or supersede the requirements for submissions that are set out in the Guidance Notes for RAE 2026.

2. This document describes the criteria and methods for assessing submissions in the [Biology] Panel. It provides guidance on the type of information required in the submissions. It also provides a single, consistent set of criteria that will be applied by the Panel and sub-group(s)/sub-panel(s), if any, when undertaking the assessment having regard to any differences in the nature of discipline[s] of respective unit[s] of assessment (“UoA[s]”) under purview. It also provides a common approach to the working methods applied within the Panel.

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Section A: Submissions

UoA[s] under the Panel

3. The [Biology] Panel will assess universities' submissions from the following UoA[s] –

Note to Panel:

The code and name of each UoA under the panel's remit will be listed below.

Code UoA[s]

- [1] [biological sciences (incl. environmental biology, biotechnology, agriculture & food science, veterinary studies)]
- [2] [pre-clinical studies]

Note to Panel:

*Please give an overview statement in paragraph 4 on the UoA(s) and describe **in detail** the boundaries and areas of research covered by your panel.*

Some useful references can be found at –

Examples of descriptors and boundaries of each UoA from the UK REF <https://2021.ref.ac.uk/media/1450/ref-2019_02-panel-criteria-and-working-methods.pdf> (Part 2: Unit of assessment descriptors).

RAE 2020 Panel-specific Guidelines on Assessment Criteria and Working Methods <<https://www.ugc.edu.hk/eng/ugc/activity/research/rae/psg/rae2020psg.html>>

4. [The Panel expects to receive submissions whose primary research focus falls within the respective remit of the above UoAs. The UoAs under the Panel's remit cover the full spectrum of the basic and applied biology of all organisms, ●●●.

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Unit of assessment descriptors and boundaries

Unit of Assessment 1: biological sciences (incl. environmental biology, biotechnology, agriculture & food science, veterinary studies)

4.1 The UoA includes research into ●●●

4.2 The Panel expects submissions ●●●

Unit of Assessment 2: pre-clinical studies

4.3 The UoA includes research into ●●●

4.4 The panel expects submissions ●●●

Inter-disciplinary Research

5. The Panel recognises that certain aspects of research are naturally inter-disciplinary or span the boundaries between individual UoAs, whether within the panel or across panels. The Panel will adopt the arrangements for assessing inter-disciplinary submissions as set out in paragraphs [39-40] of the General Panel Guidelines.

Note to Panel:

Inter-disciplinary research is encouraged, and the panel is encouraged to be as open as possible in evaluating inter-disciplinary output. But the panel may provide guidance in paragraph 6 on what type of inter-disciplinary research is prevalent in your discipline(s) or UoA(s) under your panel's remit. The panel is encouraged to go beyond generalities or commonplace examples of inter-disciplinary research. Panels are advised to list out the UoA(s) where collaborations may be possible as well as the expected degree of overlap with other UoA(s).

6. [Much research in biology is inter-disciplinary and as a result the Panel expects to assess inter-disciplinary research across the full spectrum of sub-disciplines in UoAs 1 and 2.]

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Assignment of Eligible Academic Staff in Each UoA

Note to Panel:

Please state whether the panel would require universities to provide sub-disciplinary information in relation to each eligible academic staff and respective research output(s), so as to facilitate the assignment of research outputs to assessors with relevant expertise. Please elaborate on the requirement and specify a list of sub-disciplines applicable to the panel, as appropriate.

7. Pursuant to paragraphs [7-11] of the General Panel Guidelines,

[Example 1: the [Biology] Panel does not expect to receive information on sub-disciplines in relation to eligible academic staff and their respective research outputs.]

[Example 2: the [Biology] Panel expects to receive information on any sub-discipline(s) under a research area that each eligible staff member and respective research output(s) belong to. With reference to the list of sub-disciplines below, each eligible staff member could have up to [four] sub-disciplines applied, or the number of sub-discipline(s) equivalent to the number of his/her submitted output(s), whichever is lower. An output could have one sub-discipline applied, which must be one of the staff member's sub-discipline(s).

List of Sub-disciplines

| <u>Research Area(s) (code and name)</u> | <u>Sub-discipline(s)</u> |
|--|--------------------------|
| <u>1a</u> <u>clinical veterinary studies</u> | <u>1a-01</u> [●●●] |
| | <u>1a-02</u> [●●●] |
| | <u>1a-03</u> [other ●●●] |
| <u>1b</u> <u>biological sciences</u> | <u>1b-01</u> [●●●] |
| | <u>1b-02</u> [●●●] |
| | <u>1b-03</u> [other ●●●] |
| <u>1c</u> <u>other biological sciences (incl. environmental biology)</u> | <u>1c-01</u> [●●●] |
| | <u>1c-02</u> [●●●] |
| | <u>1c-03</u> [other ●●●] |
| <u>1d</u> <u>agriculture & food science</u> | <u>1d-01</u> [●●●] |
| | <u>1d-02</u> [●●●] |
| | <u>1d-03</u> [other ●●●] |

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| | |
|---------------------------------------|--------------------------|
| <u>1e</u> <u>biotechnology</u> | <u>1e-01</u> [●●●] |
| | <u>1e-02</u> [●●●] |
| | <u>1e-03</u> [other ●●●] |
| <u>2a</u> <u>pre-clinical studies</u> | <u>2a-01</u> [●●●] |
| | <u>2a-02</u> [●●●] |
| | <u>2a-03</u> [other ●●●] |

Note to Panel:

Please elaborate in paragraph 8 on instance(s) which would likely lead your panel to suspect anomalous assignment of eligible academic staff, such as staff members who have been assigned to a UoA and yet a major part or even all of their research outputs are in the field of other UoA(s) or RAE panel(s).

8. It is critical that research outputs are assessed by the most appropriate panel. If the Panel suspects any anomaly regarding universities' assignment of eligible academic staff (and therefore their outputs) to research area(s) and UoA(s) under its remit, it will follow the procedures for re-assignment of eligible staff according to paragraphs 10-11 of the General Panel Guidelines. The Panel also recognises its responsibility to handle submissions arising from any re-assignment of eligible academic staff to the Panel. [The Panel would find the assignment of eligible academic staff likely susceptible to anomaly where the majority of their outputs fell outside the panel's boundary descriptor (see paragraphs 4.1-4.●●● above).]

Section B: Assessment Criteria: Research Outputs

Output Types

9. The [Biology] Panel will consider the eligibility of research outputs as described in paragraphs [16-18] of the General Panel Guidelines, paragraphs 5.7-5.11 and Appendix E of the Guidance Notes.

10. The Panel will assess the quality of each eligible output on its own merits and not in terms of its publication category, medium or language of publication. The Panel will examine each item in detail and will not assess outputs mechanistically according to the publication venue. The Panel recognises that there can be work of the highest quality in various output forms, and no distinction will be made between types of output submitted nor whether the output has been made available electronically or in a physical form.

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Note to Panel:

In paragraph 11, please provide examples and describe the range of research outputs that may be submitted to your panel. Some examples are provided in broad terms below for illustrative purposes only. Please edit these suggestions to illustrate the types of outputs applicable to your panel.

In particular, please specify clearly whether the following should be considered as admissible for assessment:

- *publicly accessible preprints or working papers;*
- *published conference proceedings and open datasets/databases;*
- *review papers;*
- *letters;*
- *short communications;*
- *translated works;*
- *textbooks;*
- *technical notes, etc.*

11. Forms of research outputs that are admissible and specifically relevant to the [Biology] Panel include the following examples. This should not be regarded as an exhaustive list. Equally, there is no implication of priority or importance in the ordering of examples in this list –

- [books, book chapters and research monographs.]
- [published conference papers and reports.]
- [new materials, devices, products and processes.]
- [patents awarded or published patent applications.]
- [published papers in peer-reviewed journals.]
- [articles posted on open access pre-print repositories provided that they are not submitted as published.]
- [review articles where these incorporate new research, or new hypotheses.]
- [software, computer code and algorithms.]
- [standards documents.]
- [technical reports, including commissioned advisory reports.]
- [●●●]

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Note to Panel:

In paragraph 12, please provide further guidance and specification(s) on your panel's position regarding review articles, communication (short research papers), translations, edited works, textbooks or any other types of output that your panel would like to bring to the submitting universities' information.

Please also provide amplification(s) on the best international norms and the standards of rigour and scholarship expected internationally in the disciplines or sub-disciplines under your panel's remit. As in RAE 2020, RAE 2026 adopts an inclusive view on research output. Outputs meeting the definition as set out in paragraph [15] of the General Panel Guidelines are eligible for submission. Panels may be faced with outputs of various kinds, and will have to deal with them. In the light of this, please consider and elaborate on how the criteria in the definition of research output will be applied in your panel. The following are some examples for illustration –

- outputs that have or have not undergone peer-review/refereeing process prior to publication;*
- outputs that are publicly available in open repositories or by means of self-publication;*
- outputs that are published online only;*
- outputs of systematic reviews and meta-analyses;*
- outputs of interventional studies built on existing conceptual or theoretical frameworks or modified on previous similar intervention, or outputs generated from test areas that were evolved from a single novel idea;*
- outputs that are subsequent editions of previous work;*
- two or more outputs in respect of the same eligible staff that include significant materials in common (e.g. a journal article also appears as a book chapter within the assessment period); and*
- practice-based outputs (e.g. artefacts, software, musical or poetic composition, documentary film), commissioned research outputs (e.g. advisory reports), patents awarded or published patent applications etc.*

In making the elaboration, your panel may also explain the arrangements for the assessment of individual category of outputs including –

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- *what specific information is required to be included in the submission and in what circumstances such information is required; and*
- *how will the panel take the information into account in assessing the output.*

In setting out the arrangements, your panel should bear in mind that the RAE 2026 adopts an inclusive view on research output. Each output is assessed on its quality and its own merit regardless its type of category. Your panel should ensure that all types of eligible outputs will be assessed on an equal basis.

12. Research outputs will be assessed for the quality of original research they include. [The Panel will accept the submission of review articles only where they contain a significant component of unpublished research or new insight.] Such outputs will be judged only on their original research or novelty of insight. [That said, the Panel recognises that the process of peer review entails careful refereeing of papers submitted to academic publishing outlets.]

13. [The Panel will consider subsequent editions of previous work only where they contain significant new research. Material that appeared in editions published before 1 October 2019 will not be assessed.]

Note to Panel:

In paragraph 14, please set out whether your Panel would like the universities to submit a 100-word statement for each output as detailed below. The Panel should either require or not require such statement for all outputs so that there will not be any ambiguity to the universities on whether it is required by the Panel.

14. [The Panel requires that a brief statement of no more than 100 words must be submitted for each output item to specify the originality and significance of the output, e.g. the amount and nature of overlaps between research outputs, the relationship between different outputs on the research questions, the new elements in a new version of a research output submitted in any previous RAE, etc.]

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Double-weighting of Research Outputs

Note to Panel:

Please specify in paragraphs 15-16 whether your panel expects to receive any requests of double-weighting items having regard to the output nature of disciplines under the panel's remit, and, if so, please describe –

- *what criteria the panel will apply in deciding whether to double-weight an output of extended scale and scope, where this is requested;*
- *what kind of information a university should provide (maximum 100 words per output) when making such requests; and*
- *the type(s) of outputs that is(are) particularly relevant to the panel for double-weighting; where applicable, please elaborate on whether “publication which forms the basis of a patent” may be considered for double-weighting.*

Examples are provided for illustrative purposes only.

15. Paragraphs [29-31] of the General Panel Guidelines indicate that in exceptional cases a submitting university may request that outputs of extended scale and scope be double-weighted in the assessment. [\[Example 1: Given the publication patterns in \[its UoAs / biological sciences\], this Panel does not expect to receive any items proposed for double-weighting.\]](#) [\[Example 2: In view of the established practice in \[subject area\(s\) ●●●\] of publishing major research outputs in the form of \[●●●\], the Panel recognises that there may be outputs of such scale and scope and will consider the items submitted for double-weighting in line with the General Panel Guidelines.\]](#)

16. [\[When requesting for double-weighting of an output, universities should submit a statement in not more than 100 words, explaining in what ways the output is of sufficiently extended scale and scope to justify the claim. The Panel will decide whether to double-weight the output on the basis of \[●●●\]. The Panel will consider \[a sole-authored monograph\] to be equivalent to requiring research effort for producing two single outputs.\]](#)

Co-authored/Co-produced Outputs

17. The Panel affirms the principles and arrangements on assessing co-authored/co-produced research outputs as set out in paragraphs [32-34] of the General Panel Guidelines.

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Note to Panel:

Please provide in paragraph 18 further guidance on your panel's position on co-authored/co-produced outputs in view of the disciplines under the panel's remit, and specify if any information is required for the panel's consideration. In particular, please provide elaboration, if any, on whether the number and/or order of authors as well as the role of author (e.g. first / correspondence / main authorship) will be taken into account in assessing whether a co-authored item will be accepted.

The default draft is to require another 100-word statement to specify the contribution of the submitting author. Please suitably amend the requirement if the Panel would like to set out other conditions when these 100 words are required.

18. [The Panel will consider co-authorship to be a normal element of research activity in [its UoAs / biological sciences] and for outputs with less than [number] co-authors the Panel will accept that all co-authors have made a significant contribution to the research process leading to the output concerned. In the case of an output with eight or more co-authors the university should explain in no more than 100 words the contribution of the submitting author unless s/he is a first or co-first author, or a last or co-last author.]

Non-traditional Outputs

Note to Panel:

Please provide guidance in paragraph 19 on the 300 words description for non-traditional outputs and any additional requirement regarding non-traditional outputs as well as the format and method of access to the outputs concerned.

If the Panel does not expect non-traditional output, please retain the last sentence. If yes, please delete the sentence.]

19. The Panel will handle research outputs in non-traditional form according to paragraphs [35-37] of the General Panel Guidelines. The Panel expects to receive additional information about each non-traditional output in terms of its novelty, significance, method used to ensure academic rigour in the production of the output, deliverables, and dissemination method. [For

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submissions involving recordings, images or photographs, the Panel would expect the contents are of good quality in at least [●●-bit audio and high definition ●● × ●● video resolution] for recordings and [●● dpi (dots per inch)] for images/photographs respectively.] [The Panel does not expect to receive outputs in a non-traditional form, however.]

Criteria and Quality Levels for Assessing Research Outputs

20. Panel members will use their professional judgement with reference to international standards in assessing research outputs.

21. In assessing outputs, the Panel will look for evidence of originality, significance and rigour, and will grade each output into one of the five categories of quality level as set out in paragraph [19] of the General Panel Guidelines. The generic description of the quality levels as set out in paragraph [20] of the General Panel Guidelines will be applied in the Panel's assessment.

Note to Panel:

Please describe in paragraph 22 how your panel would like to supplement the criteria in GN and GPG regarding the generic criteria of “originality, significance and rigour” in assessing research outputs. Elaboration and examples may be added to illustrate the criteria in respective discipline(s), but without linking to any particular quality levels.

22. The [Biology] Panel provides the following amplifications on the criteria of assessing research outputs –

- originality: [will be understood as the extent to which the output makes an important and innovative contribution to understanding and knowledge in the field. Research outputs that demonstrate originality may do one or more of the following: produce and interpret new empirical findings or new material; propose new paradigm shift; engage with new and/or complex problems; develop innovative research methods, methodologies and analytical techniques; show imaginative and creative scope; provide new arguments and/or new forms of expression, formal innovations, interpretations and/or insights; collect and engage with novel types of data; and/or advance theory or the analysis of doctrine, policy or practice, and new forms of expression.]

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- **significance:** [will be understood as the extent to which the work has influenced, or has the capacity to influence, knowledge and scholarly thought, or the development and understanding of policy and/or practice.]
- **rigour:** [will be understood as the extent to which the work demonstrates intellectual coherence and integrity, and adopts robust and appropriate concepts, analyses, sources, theories and/or methodologies.]

23. In addition, the Panel provides the following advice on their understanding of the quality definitions adopted for assessing research outputs –

[The Panel will take into consideration the following characteristics in particular –

- scientific rigour and excellence with regard to the design, research method, execution and analysis of the work.
- whether or not the output has been subject to peer-review.
- significant addition to knowledge and to the conceptual framework of the field.
- potential and actual significance of the research both within and beyond the field concerned.
- the scale, challenge and logistical difficulty posed by the research.
- the logical coherence of argument.
- contribution to theory-building.
- significance of work to advance knowledge, skills, understanding and scholarship in theory, practice, education, management and/or policy.
- Significance for professional development in veterinary science.
- ●●●]

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Metrics/Citation Data

24. Pursuant to paragraph [24] of the General Panel Guidelines, the Panel acknowledges that metrics and citation data may serve as advisory or secondary information, and that they should not be used in any algorithmic or deterministic way for the evaluation of research quality.

Note to Panel:

Please state in paragraph 25 whether your panel will make use of metrics/citation data to inform assessment of research outputs, and where appropriate, elaborate on –

- *what kind of metrics/citation data will the panel use;*
- *how will the panel interpret and to what extent will it make use of the metrics/data (e.g. any rating or quantifiable parameters that the panel will adopt when using the metrics/data as additional information about the academic significance of individual outputs);*
- *how will the panel ensure the assessment of the quality of outputs will be based on the assessment criteria of “originality, rigour and significance” and, having regard to the principle of fairness, how will the panel ensure that all submitted outputs will be assessed on equal footing, including outputs for which metrics/citation data are unavailable (e.g. not published in an indexed journal), unsuitable as an indicator (e.g. an applied research output), or not meaningful at the time of assessment (e.g. the output was published shortly before the assessment takes place).*

Examples are provided for illustrative purposes only.

25. [Example 1: The [Biology] Panel will examine each output in detail for the assessment. The Panel [may use metrics or citation data] to inform its assessment of individual items. These [metrics and data] will not be used in any algorithmic or deterministic way for the evaluation of research quality. The Panel is aware of the limitations of citation data, their variability within and between disciplines, that some excellent work takes time to demonstrate its full achievements.] [Example 2: The [Biology] Panel does not expect to refer to metrics or citation data in reaching its judgement on the quality of submitted research outputs.]

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Additional Information on Research Outputs

Note to Panel:

Please provide in paragraph 26 a general statement on your panel's position regarding any other additional information on research outputs. The draft sentence should be kept as far as practicable to the extent that the Panel should not be expected to consider any other information if not required in the Guidelines or by the Panel.

26. Other than the information required on research outputs as specified in the Guidance Notes, [and unless specifically required by the Panel during the assessment process, no other information should be provided. The Panel will take no account of any such information if submitted.]

Section C: Assessment Criteria: Research Impact

Range of Impacts

Note to Panel:

Please provide a general statement about the types of impacts and/or highlight any aspect(s) of impact submissions that is(are) specifically relevant to the disciplines under your panel's remit.

27. The [Biology] Panel will accept submissions on research impacts that meet the generic definition and criteria as set out in paragraphs [47-49] of the General Panel Guidelines.

28. The Panel will assess the quality of all eligible impact submissions based on their merits on equal footing with no consideration given to the differences among submitting universities/units in terms of staff size, resources and histories. [The Panel recognises that impacts within its remit may have impact in various ways and various spheres whether locally, regionally or internationally. ●●●.]

Note to Panel:

Please provide in paragraph 29 examples on the types of impact that your panel would expect under the panel's remit in Table A. Examples given below are provided in alphabetical order and intended for illustrative

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purposes only. Your panel may provide examples and use your own format in the illustration, as appropriate.

In particular, arising from the discussion of one panel in RAE 2020, your panel may wish to discuss how to handle, and hence whether any guidelines should be given on, claims of impact in the form of continuing professional development (CPD). In this connection, GPG #47 specifies that impacts must be “beyond academia”. Whether impact in the form of CPD courses had “reach” beyond the submitting university or on other fields may be specified in the PSG.

29. Examples are provided to illustrate the range of potential impacts from research across the [\[Biology\]](#) Panel in [Table A](#). These examples are indicative only, and are not exhaustive or exclusive. Equally, there is no implication of priority or importance in the ordering of examples in the list.

30. Universities are expected to submit their strongest impact cases and not to align submitted cases specifically with the particular types of impact listed, as an impact case may describe more than one type of impact, such as [\[a drug may generate health and economic impact, or an environmental study may increase both biodiversity and tourism.\]](#)

[Table A: Examples of Impact](#)¹

| | |
|---|--|
| Impacts on the economy <i>where the beneficiaries may include industry and society</i> | <ul style="list-style-type: none"> • Gains in productivity have been realised as a result of research-led practices. • A spin-out or new business has been created, established its viability, or generated revenue or profits. • Development of new products or processes. |
| Impacts on the environment <i>where the beneficiaries may include tourism,</i> | <ul style="list-style-type: none"> • The management of an environmental risk or hazard has changed. |

¹ Examples of impact case studies in RAE 2020 may be accessed online at <https://impact.ugc.edu.hk/> and <https://www.ugc.edu.hk/eng/ugc/activity/research/rae/2020/impactsubmissions.html>. Other examples of research impact as assessed in other jurisdictions may be accessible online such as <https://results2021.ref.ac.uk/impact> from the United Kingdom.

Universities may also refer to examples of impacts and indicators detailed in Annex A of https://2021.ref.ac.uk/media/1450/ref-2019_02-panel-criteria-and-working-methods.pdf of the United Kingdom Research Excellence Framework 2021.

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| | |
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| <i>agriculture, fisheries, government, and society</i> | <ul style="list-style-type: none"> • The management or conservation of natural resources (e.g. water) has been influenced or changed. • Practices or policies affecting biodiversity have changed. |
| <u>Impacts on health</u> <i>where the beneficiaries may include patient groups, industry, and society</i> | <ul style="list-style-type: none"> • A new diagnostic or medical technology has been adopted. • A new drug or drug target has been licenced by industry. • Decisions by health service or regulatory authority have been informed by research. |
| <u>Impacts on public policy and services</u> <i>where the beneficiaries may include non-governmental organisations (NGOs), government, and society</i> | <ul style="list-style-type: none"> • Policy decisions or changes to legislation, regulations, or guidelines have been informed by research. • Policy or public debate has been stimulated or informed by research evidence. • The work of public or NGOs has been influenced. |
| <u>Impacts on quality of life and welfare</u> <i>where the beneficiaries may include farming, fisheries, food industry, and society</i> | <ul style="list-style-type: none"> • Improved food safety regulations. • Improved standards of animal welfare. • Improved agricultural practices. |
| <u>Impacts on education and public understanding of science</u> <i>where the beneficiaries may include educational institutions, media, and society</i> | <ul style="list-style-type: none"> • Changes in school curriculum. • Educational programmes for broadcast media have been influenced. • The development of new museum exhibits has been informed. |

Impact strategy

31. Universities are reminded to set out their impact strategy in the University-level and UoA-level Environment Overview Statements.

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Impact Case Study(ies)

Note to Panel:

Please provide guidance in paragraphs 32 to 33 on your panel's requirement on the impact case studies (including continued cases) and specify particular forms of evidence and types of indicators expected for each section of the impact case study.

32. Following paragraphs 7.7 (a) and (b), 7.9-7.10 and Appendix F of the Guidance Notes and also paragraph [50] of the General Panel Guidelines, [submitting units are required to provide a narrative account in each case study that should be coherent, clearly explaining the relationship between the research and impact, and the nature of the changes or benefits arising.]

33. [Each impact case study should include appropriate evidence and indicators that support the claims for the impact achieved, including who and what has/have benefitted, when the impact occurs/occurred, and the relationship between the case study and how it has/had sustained further innovation and impact. Individual case studies may draw on various evidence and indicators, which may take different forms depending on the type of impact. ●●●.]

Note to Panel:

Please provide examples in paragraph 34 on the forms of evidence or indicators that are relevant to the types of impact under your panel's remit in Table B. Examples given below are intended for illustrative purposes only. Please also add any further advice that your panel may wish to on the case studies as provided in paragraph 35 below. Please make suitable adaptation in both content and the format to suit the need of your panel.

34. Examples are provided in Table B to illustrate potential evidence or indicators that may be mostly relevant to the [Biology] Panel. These examples are not intended to be exhaustive. Equally, there is no implication of priority or importance in the ordering of examples in the list.

Table B: Examples of Evidence or Indicators for Impact²

² Examples of evidence or indicators for research impact in RAE 2020 may be accessed online at <<https://impact.ugc.edu.hk/>> and <<https://www.ugc.edu.hk/eng/ugc/activity/research/rae/2020/impactsubmissions.html>>. Other examples of evidence or indicators for research impact in other jurisdictions may be accessible online such as <<https://results2021.ref.ac.uk/impact>> from the United Kingdom.

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| | |
|-------------------------|---|
| Quantitative indicators | <ul style="list-style-type: none"> • Quantitative data relating to cost-effectiveness. • Performance measures (e.g. sales, turnover, profits associated). • Audience or attendance figures. |
| Documentary evidence | <ul style="list-style-type: none"> • Documented changes to public policy / legislation / regulations / guidelines / standards. • Evidence of policy or public debate. • New professional codes and standards. • Application or incorporation in professional best practice, training and continuing development materials. • Commercial adoption of new technology, process, knowledge, or concept. • Licences awarded or products brought to market. |
| Independent testimony | <ul style="list-style-type: none"> • Formal acknowledgements of and/or evaluations by relevant beneficiaries, bodies and organisations. |
| Reviews and citations | <ul style="list-style-type: none"> • Citations and reviews outside the academic literature, e.g. in policy, regulatory, practice documents. • Citations in media. |

35. [The Panel provides the following advice on particular aspects of impact case studies –

- Evidence supporting each impact case should be verifiable.
- The link to underpinning research should be clear
- ●●●
- ●●●]

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Underpinning Research

Note to Panel:

Please provide guidance in paragraphs 36 and 37 on your panel's approach to evaluating and establishing the underpinning research referenced in each impact case study is of at least 2-star standard. Please stipulate whether the panel's specific criteria on eligible research outputs would also apply to the evaluation of underpinning research for impact case studies.

36. The Panel acknowledges the level of quality required for research underpinning impact cases, i.e. equivalent to at least 2 star (2*) or international standing, as stipulated in the General Panel Guidelines. [Impact case studies should specify indicators of the quality of the underpinning research such as outputs or peer-reviewed funding. ●●●]. Where necessary, the Panel will review the outputs concerned in order to ensure the quality of the research is of at least 2 star (2*).[

37. [Provided that the Panel is satisfied that the quality threshold has been met, the quality of the underpinning research will not be taken into account in the assessment of the quality of impact. Underpinning research referenced in a case study may also be submitted for assessment under the research output element. The evaluation of the outputs concerned under the impact element is a separate assessment only for assuring the threshold of underpinning research. In this case, the guidance on output types and criteria for assessing research outputs as stipulated in paragraphs [9]-[14], [20]-[23] above would apply.]

Criteria and Quality Levels for Assessing Research Impact

Note to Panel:

Please describe in paragraphs 38 and 39 how your panel would like to supplement the criteria in GN and GPG regarding the generic criteria of “reach and significance” in assessing research impacts. Elaboration or examples may be added to illustrate how reach and significance will be understood by the panel in the evaluation of impact cases, but without linking to any particular quality levels.

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38. Panels will exercise their expert judgement in assessing the quality of each impact submission, and will not judge in terms of the type of research underpinning the impact cases.

39. In assessing impacts, the Panel will look for evidence of reach and significance, and will grade each impact submission as a whole and give a rating using one or more of the five categories of quality level following paragraphs [53-55] of the General Panel Guidelines. In respect of the [Biology] Panel, the criteria of reach and significance will be understood as follows –

- reach: [the extent and/or diversity of the beneficiaries of the impact, as relevant to the nature of the impact. Reach will be assessed in terms of the extent to which the potential constituencies, number or groups of beneficiaries have been reached; it will not be assessed in purely geographic terms, nor in terms of absolute numbers of beneficiaries. The criteria will be applied wherever the impact occurred, regardless of geography or location, and whether in Hong Kong or elsewhere. For example, the Panel will evaluate the extent to which society as a whole, communities or individuals have been benefitted from the introduction of a new drug. ●●●.]
- significance: [the degree of beneficial effects to policies, practices, perspectives or awareness of organisations, communities or individuals, constructive change to the prevention or reduction of harm, risk or cost. For example, the Panel will evaluate the degree of constructive change to the prevention or reduction of harm, risk or cost from the introduction of new drug. ●●●.]

Note to Panel:

Please provide a brief statement in paragraph 40 on how your panel will apply the standards of quality levels for research impact below. If the panel wishes, further elaboration and/or examples (which do not have to link to particular quality levels) may be given as appropriate, but again without linking to any particular quality levels.

40. The Panel will make an overall judgement about the reach and significance of impacts, rather than assessing each criterion separately. The criteria will be applied in the assessment of the research impact regardless of the domain to which the impact relates. [The quality standards for assessing

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research impact will be those indicated in paragraph 55 of the General Panel Guidelines.] [In addition, the Panel understands the quality standards for assessing research impact as follows –

- •••
- •••]

Section D: Assessment Criteria: Research Environment

Research Environment

Note to Panel:

Please provide in paragraphs 41 to 42 relevant statement on the element of research environment in respect of disciplines under your panel's remit.

41. The [Biology] Panel will accept submissions on research environment according to paragraphs [57-58] of the General Panel Guidelines. [The Panel recognises that excellent research can be undertaken in a wide variety of research structures and environments and has no pre-formed view of the ideal size or organisational structure for a research environment. The Panel recognises the benefit of diversity within a research environment and will regard positively efforts to achieve this as indicated in paragraph 65 of the General Panel Guidelines.] The Panel will assess each submission based on what has been presented in relation to the work of the submitting unit in providing and ensuring a good environment.

42. [A research environment submission includes one University-level Environment Overview Statement across the same university, and one UoA-level Environment Overview Statement and environment data for each UoA. The UoA submissions may relate to a single coherent faculty and equally to multiple departments, and may depict the commonalities and dynamics among faculties and departments within the submitting unit, and define their prime activities, how they operate and their main achievements.]

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Environment Overview Statements (one university-level environment overview statement across the university and one UoA-level environment overview statement for each UoA)

Note to Panel:

Please provide guidance in paragraphs 43 and 44.2 on your panel's requirement on the UoA-level environment overview statements and specify particular evidence and information expected for individual sections where appropriate. Examples given below are for illustrative purposes only. Please make adaptations to suit the case of the panel. Since the University-level Environment Overview Statement will be adopted across all panels, no change is expected in paragraph 44.1 unless absolutely necessary.

43. Following paragraphs 9.6 (a) and (b), 9.7, 9.8 and Appendix G of the Guidance Notes, and also paragraphs [59 & 60] of the General Panel Guidelines, the Panel will use the information provided in the University-level Environment Overview Statement to inform and contextualise their assessment of relevant sections of the UoA-level environment overview statement. [Submitting units are required to describe how they have supported the conduct and production of research, in the context of the university policies as set out in the University-level Environment Overview Statement.]

44. Within the terms of the Guidance Notes, the [Biology] Panel will expect in particular to see the following in the –

44.1 University-level Environment Overview Statement

- context and mission: an overview describing the submitting university's size, structure, mission and stage of development in view of its role statement so as to provide a context for the submission.
- research policy and strategy: describing the institutional strategy for research (including research strengths, research focus areas, distribution of research activities across research areas), enabling impact (including stakeholder engagement and knowledge transfer), developing a sustainable research culture (including open access and open data policies, approach to contributing to the Sustainable Development Goals, how inter-disciplinary and collaborative research has been

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supported, how research integrity and research ethics are embedded in the institution), and how the overall institutional policy and strategy contribute to government priorities.

- people: institutional staffing strategy, staff development and training (e.g. leave policies, equality and diversity agenda, measures/facilities for early career researchers/junior scholars/research students, etc.), and development, training and supervision of research students.
- research funding sources: breakdown by funding source as a percentage total of overall funding; and university-level resources, infrastructure, and facilities available to support research and impact.

44.2 UoA-level Environment Overview Statement

In the context of the University policies as stipulated in the University-level Environment Overview Statement –

- UoA context and structure: [submission in this part is expected to briefly describe the organisation and structure of the unit, which research groups are covered in the submission and how research is structured across the submitting unit; ●●●.]
- research and impact strategy: [evidence of the achievement of strategic aims for research and impact during the assessment period, details of current/future strategic aims and goals for research and impact; how these relate to the structure described above; and how they will be taken forward; methods for monitoring attainment of targets; new and developing initiatives not yet producing visible outcomes but of strategic importance; identification of priority developmental areas for the unit, including research topics, funding streams, postgraduate research activity, facilities, administration and management; ●●●.]
- research integrity and research ethics: [highlights of success and challenge with the UoA; mechanisms by which standards of research quality and integrity are maintained for example ethics procedures and authorship; ●●●.]
- people: [evidence of staffing strategy, staff development and training (e.g. leave policies, equality and diversity agenda, measures for junior scholars, etc.) and evidence of their

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effectiveness; how individuals at the beginning of their research careers are being supported and integrated into the research culture of the submitting unit; information on postgraduate recruitment, training and support mechanisms; measures/facilities for development and supervision of research students; ●●●.]

- income (e.g. grants received), infrastructure and facilities: [information on research funding portfolio; evidence of successful generation of research income; major and prestigious grant awards made by external bodies on a competitive basis; provision and operation of research infrastructure and facilities, including special equipment, library, technical support, space and facilities for research groups and research students; information on joint-university or cross-institution shared or collaborative use of research infrastructure; ●●●.]
- collaborations: [information on support for and exemplars of research collaborations; mechanisms to promote collaborative research at local and international level; support for inter-disciplinary research collaborations; research collaboration with research users; ●●●.]
- esteem: [prestigious/competitive research fellowships held by individual researchers; external prizes and awards in recognition of research achievement; ●●●.]
- contribution to the discipline or research base: [exemplars of leadership in the academic community such as advisory board membership; participation in the peer-review process for grants committees or editorial boards; ●●●.]

Environment Data

Note to Panel:

Please provide guidance in paragraphs 45 to 46 on how your panel will consider the environment data according to the requirements and template as specified in the Guidance Notes and General Panel Guidelines. Where the panel requires additional quantitative data specific to respective UoA(s) or discipline(s), please specify that such data should be provided in appropriate section(s) in the [UoA-level](#) environment overview statement.

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45. Following paragraphs 9.6 (d) and (e), 9.9 and Appendix H of the Guidance Notes, and also paragraph [61] of the General Panel Guidelines, [submitting units are required to provide environment data in conjunction with the UoA-level environment overview statement. The Panel will consider the environment data within the context of the information provided in the environment overview statement, and within the context of the disciplines concerned.]

46. [Data on “staff employed by the university proper” and “graduates of research postgraduate programmes” will be used to inform the Panel’s assessment in relation to “people” (section (4)). Data on “on-going research grants/contracts” will be used to inform the Panel’s assessment on “income (e.g. grants received)” (part of section (5)). Additional quantitative data or indicators that are particularly relevant to the Panel are indicated in paragraph [44] above. Such additional information should be submitted within the appropriate section(s) of the UoA-level environment overview statement.]

Criteria and Quality Levels for Assessing Research Environment

47. Panels will exercise their expert judgement in assessing the merits of each environment submission, and will not judge automatically in terms of the scale of research environment concerned.

Note to Panel:

Please specify in paragraph 48 whether your panel will assess each environment submission as a whole, or attach weighting to individual aspects within the environment element in their assessment.

For the latter, all the topics to be addressed in the environment submissions are important, but their relative importance may differ from panel to panel. As such, panels may choose to vary their weighting, but none should dominate or be zero weighted. Individual weightings could be set as high as 30% or as low as 5% at the panel’s discretion, or panels could group the aspects and give equal weightings to each group.

Besides, weighting for each aspect should be in a minimum of 5% or multiples of 5%, with a total of 100% for all aspects. Your panel is required to specify the weighting arrangement, if any, in these guidelines. Examples are provided for illustrative purposes only.

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48. In assessing environment, the Panel will consider research environment in terms of vitality and sustainability, including its contribution to the vitality and sustainability of the wider discipline or research base. [Example 1: The Panel will grade each environment submission as a whole with a profile rating using one or more of five categories of quality level as set out in paragraphs [63-65] of the General Panel Guidelines. There is no weighting attached to individual aspects in the assessment.] [Example 2: The Panel will grade each environment submission with weighting attached to individual aspects as follows –

- research and impact strategy – [10]%
- research integrity and research ethics – [5%]
- people – [15]%
- income (e.g. grants received), infrastructure and facilities – [30]%
- collaboration – [20]%
- esteem – [10]%
- contribution to the discipline or research base – [10]%

The Panel will use one or more of the five categories of quality level as specified in paragraphs [63-65] of the General Panel Guidelines for assessing each aspect within the environment element and by aggregating assessments of individual aspects to form an overall assessment for each UoA-level environment submission.]

Note to Panel:

Please describe in paragraph 49 how your panel would like to supplement the generic criteria of “vitality and sustainability” in assessing research environment, but without linking to any quality level.

49. The [Biology] Panel provides the following amplifications to supplement the generic criteria for assessing research environment –

- vitality: [the extent to which a unit supports a thriving and inclusive research culture for all staff and research students, that is based on a clearly articulated strategy for research and enabling its impact, is engaged with the local and international research and user communities and is able to attract excellent postgraduate and postdoctoral researchers; ●●●.]

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- sustainability: [the extent to which the research environment ensures the future health, diversity, wellbeing and wider contribution of the unit and the discipline(s), including investment in people and in infrastructure. ●●●.]

Note to Panel:

Please provide a brief statement in paragraph 50 on how your panel will apply the standards of quality levels for research environment. If the panel wishes, further elaboration and/or examples (which do not have to link to particular quality levels) may be given as appropriate.

50. The Panel will make an overall judgement about the vitality and sustainability of research environments, rather than assessing each criterion separately. [The quality standards for assessing research environment will be those indicated in paragraph 65 of the General Panel Guidelines.] [In addition, the Panel understands the quality standards for assessing research environment as follows –

- ●●●
- ●●●]

Section E : Working Methods

Use of Sub-Group(s)/Sub-Panel(s)

Note to Panel:

Please specify in paragraph 51 your panel's position on setting up sub-group(s)/sub-panel(s) for the purposes of assessing submissions. Examples are provided for illustrative purposes only.

51. [Example 1: There will not be any sub-group or sub-panel formed under the [Biology] Panel.] [Example 2: To facilitate assessment on particular UoA(s) and/or research area(s) under the [Biology] Panel, the following sub-groups will be formed to assess submissions in respective research areas –

- agriculture and food science: to cover submissions on areas of ●●●
- pre-clinical: to cover submissions on areas of ●●●

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• ●●●]

[The final assessment and grading will be decided by the Panel as a whole.]

Allocation of Work in the Assessment Process

52. The Convenor, consulting the Deputy Convenor and other panel members, as appropriate, will allocate work to members and, if necessary, [lay members](#), impact assessors and/or external reviewers in light of their expertise and workload. In allocating the work, the Convenor will also take into account any potential conflicts of interest of respective panel members and assessors. All panel members will take account of the requirements of the General Panel Guidelines to ensure that the exercise is conducted fairly and equitably.

Note to Panel:

Please provide in paragraphs 53 to 55 specifications on your panel's working methods regarding the assessment work on research outputs, impact and environment. Examples are provided for illustrative purposes only.

53. Panel members will examine the submitted outputs in detail, and put forward a recommendation to the panel for a collective decision on the final grading. To ensure fairness and consistency, each research output will be assessed in detail by at least two members, one of whom should be a non-local member to the extent possible. For UoA(s) which is(are) only housed at one or two local universities, submissions will be assigned to at least one non-local member in order to ensure fair and impartial assessment. Final grading on research outputs will be decided by the Panel as a whole.

54. Subject to conflicts of interest of individual members, [\[Example 1: the impact and environment submissions will be assessed by members of the whole Panel and the final grading of individual submissions will be a collective decision of the Panel.\]](#) [\[Example 2: the impact and environment submissions will be assessed by panel members and impact assessors in the sub-group\(s\)/sub-panel\(s\) for respective UoA\(s\) or research area\(s\) under the Panel. Final grading of individual submissions will be a collective decision of the Panel.\]](#)

55. [\[Where appropriate, the Panel will decide, by exercising their professional judgement, whether lay members \(local “research end-users” or](#)

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professionals in respective fields from business, government, industry and the arts, who need not be academics) with suitable expertise will be invited to take part in the assessment. Lay members who are academically qualified may also be invited for assessment of research outputs and research environment. The engagement of lay members will be by invitation from the Panel only.]

Cross-Panel Referrals

Note to Panel:

Please elaborate in paragraphs 56 to 58 your panel's position on cross-panel referrals as appropriate. Examples are provided in paragraphs [57-58] for illustrative purposes only.

56. This Panel will follow the procedures in paragraphs [41-43] of the General Panel Guidelines when initiating referrals to other panels and assessing submissions cross-referred by another panel.

57. [Example 1: Generally, research on pedagogy and education issues submitted to this Panel will be assessed by panel members or external reviewers with expertise in pedagogy or cross-referred to Panel 13 – Education.] [Example 2 for Panel 13 – Education: Generally, research on pedagogy and education issues submitted to other panels will be assessed by panel members of the respective panels or external reviewers with expertise in pedagogy. In the case that the expertise of members of this Panel is called for, this Panel may also assess research on pedagogy and education issues cross-referred from other panels.]

58. [Cross-panel referrals are envisaged in areas such as: physical geography, oceanography, optical methods, medicinal chemistry (to Panel 3 – Physical Sciences); clinical pharmacology (to Panel 2 – Health Sciences) and [●●] (to Panel ● - ●●).]

External Advice

Note to Panel:

Please elaborate in paragraph 59 situations where external advice from external reviewers would be sought.

59. This Panel will follow the procedure in paragraph [67] of the

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General Panel Guidelines when referral to external reviewers for expert advice becomes necessary for panel assessment. [External reviews may be sought in the cases for which members of the panel do not have the necessary expertise such as outputs in foreign language or niche research work.]

Trial Assessment

Note to Panel:

Please elaborate in paragraph 60 your panel's position on trial assessment as appropriate.

60. With reference to paragraphs [91-93] of the General Panel Guidelines, the Panel will conduct a trial assessment [using a number of submissions selected from universities' submissions. These sample submissions will be assessed by all members of the Panel. Members will share among themselves any important observations in the assessment to ensure fairness and consistency in the actual assessment.] Submissions used for the trial assessment will be assessed afresh during the main assessment period regardless of their assessment results during the trial. The Panel will decide on the sample size after the submissions are received.

Panel Feedback Report

61. With reference to paragraph [73] and Appendices [E] and [F] of the General Panel Guidelines, the Panel will provide feedback to the University Grants Committee (UGC) after the assessment process. Non-local panel members will be involved in offering comments for an impressionistic international comparison. The Convenor on behalf of the whole panel will submit the panel feedback report to the UGC by November 2026. Sector-wide comments in the panel feedback report will be released for public information after announcement of the RAE results. Comments on individual universities will be provided to the respective universities under confidential cover in accordance with paragraph 11.3 of the Guidance Notes.