

PART THREE: CONCLUSIONS AND RECOMMENDATIONS

This review is based on the findings of the RAND team, both the documentary evidence they compiled and the consultative fieldwork they conducted. The Task Force is also indebted to them for their careful analysis of it. Their findings are contextualised by some data from comparable international jurisdictions in the way described in Annex A to Part Two (Consultant Report). This material is drawn from publicly-available sources, largely websites, and is inevitably limited in scope and consistency. Task Force members, however, have extensive, detailed knowledge of research systems internationally and this knowledge was brought to bear on what follows.

2. We observed in Hong Kong a system of research support that has reached a good level of maturity, is at a significant stage of its development, and has many strengths and achievements. It has delivered considerable success and has, we find, demonstrated effective leadership. We commend this. There have been effective responses to a substantial increase in research activity in Hong Kong within the limitations of available resources, and the RGC has established a system that stands international comparison. In addition, it is, we believe, capable of evolving further as research becomes ever more important to modern knowledge-based economies. Hong Kong has a strong base for its support of research.

3. We note that the overall RGC budget has increased from HK\$100 million to HK\$1,127 million over a 25-year period with proportionate growth in numbers of grants awarded, the variety of awards made, the type of schemes administered, the number of researchers supported, and the development of an increasingly diverse portfolio. Growth of this kind has required matching increase in the administration of, for example, a more extensive peer review system, and the capability to anticipate and respond to change in a very competitive international environment. The Task Force welcomes the mixture of block grant and competitive incentive in its research support, and wishes to encourage the RGC to maintain this while looking at ways to enhance competition and simplify the portfolio of schemes it operates.

4. The RGC, with support from the UGC and other bodies, has developed robust and reliable processes. The evidence suggests that administrative personnel are trusted and valued. There is a secure peer review system which, internationally, is accepted to be essential for a strong system. The depth and extent of international engagement with peer review in Hong Kong is creditable. In addition, the handling of alleged or actual cases of research misconduct, although capable of improvement (we note steps in this direction already), carries credibility. It should be emphasised that both local and international observers perceive high quality in terms of the research delivered and the processes established.

5. The Task Force found no compelling evidence to support a case for radical change of direction or restructuring of the RGC or the system of research support it operates, such as the creation of an independent body separate from the UGC. The scale at which the RGC currently operates, and the size of the Hong Kong research system, is not sufficient to justify such a move. The current system has worked well and kept reasonable pace with comparable jurisdictions. However, it will continue to face the challenges described in this conclusion. The points made are not in any order of priority and should be read together.

I. Communication and Engagement

6. In the Task Force's view, the RGC faces a significant and immediate communications and engagement challenge. Feedback from Focus Groups and the evidence that, for example, substantial numbers of survey respondents perceive a lack of transparency, suggest that early and appropriately targeted action may be required. This has several dimensions: researchers and others fail to understand the overall strategic direction and purpose of the RGC and its policies; there are deficits in understanding of procedures; there are suspicions about fairness of assessment and transparency of outcomes; and there are gaps in understanding about how researchers and others might engage with the RGC.

7. In considering these matters it is important to appreciate the

difference between communication and engagement. Trust in an organisation is gained not only by conveying information in a clear, accurate and regular way (and improvements could be made here), but also by involving stakeholders in the evolving business of research policy and strategy. Effort by all parties is required: not only from the RGC in facilitating more regular and substantial means of engagement, building upon the ‘Town Hall Meetings’ initiative, but also from researchers themselves who need to be willing to commit to and participate in such engagement. Finally, it is our view that universities and self-financing degree-awarding institutions need to take a greater lead in encouraging dialogue. Communication and engagement are not one-way streets.

8. The prize for strengthening this area will not only be a system that is better understood and enjoys greater confidence, but one that is potentially more dynamic, better able to draw upon a broader range of expertise, and adapt to new initiatives. The Task Force feel improvement in communications and engagement could be a productive gain for the RGC.

II. The Overall Volume of Research Funding in Hong Kong

9. Internationally, research is becoming more expensive as the cost of both salaries and equipment rise, and the overall volume of research increases. As data in Section 3.1.1 of Part Two show, in Hong Kong the percentage of GDP spent on research (which is a measure frequently applied internationally) is low by comparison with other jurisdictions and this will have an inevitable impact on competitiveness. This is particularly the case because several of Hong Kong’s regional neighbours also seek to build systems of quality and reputation in a very competitive location. It is not for the Task Force to labour this point, but we would be remiss if we failed to call attention to what was a prominent part of the findings. It is related to concerns we detected about the sustainability of funding based on a fixed endowment, and the ability of such a system to respond to the changing (and increasing) needs and costs of modern research. The competition for top talent in research is internationally severe. Hong Kong does not yet appear to be at a point of concern in this respect, but access to research funding is a major

factor in the decisions of highly mobile researchers.

10. To develop strongly, the Hong Kong system will need to confront these issues.

III. Data Collection

11. Increasingly, it is best practice for research systems to gather data about their own operations and outcomes to monitor performance and provide evidence for planning and strategy. In line with international good practice, the RGC may wish to consider collecting stronger data on, for example, diversity and equality, destination data for postgraduates supported through the HKPFS, the career stages of applicants for grants and those to whom they are awarded, and information relating to the links between teaching and research. We are mindful of regulatory constraints on data collection in Hong Kong, but feel this is an important matter for future operations.

12. In addition, we think there is merit in using current panels to provide periodic reflective reports on the applications presented to them to identify strengths, weaknesses and gaps (or gluts) in current research, particularly with reference to interdisciplinary potential. This is common across several jurisdictions and provides a useful source of strategic intelligence. Another approach is to conduct ex-post evaluations of funded research in addition to the current periodic Research Assessment Exercise. These might be commissioned externally (for example in the form of discipline-based reviews) or developed in-house. Initiatives such as these might also help the debate about the impacts and benefits derived from research (see V below).

IV. Unusual Categories

13. The Task Force observed that the RGC makes use of two categorical distinctions not commonly found internationally. These are: the distinction between ‘basic’ and ‘applied’ research; and that between ‘local focus’ and ‘international significance’.

14. Though such documents as the Frascati Manual (updated but first produced in 1963) can use these terms, internationally, amongst research funders, the distinction between ‘basic’ and ‘applied’ is not widely recognised as a useful descriptor. This is because the terms do not reflect the complex, often indirect and sometimes serendipitous ways in which research knowledge is brought into use. The terms, therefore, imply a difference that is theoretical rather than actual. Nor do they reflect the frequently lengthy intervals of time that can occur between discovery and application (for example, this is sometimes said to be in the order of 16 years or more in the medical sciences). The terms therefore imply too absolute a distinction between what are closely linked activities.

15. The distinction between ‘local focus’ and ‘international significance’, while understandable as the Hong Kong system defined its own needs and purposes, carries unfortunate implications. These were drawn out by participants in focus groups. For one thing, discussants declared themselves unclear as to what ‘Hong Kong focus’ meant in practice or was meant to mean in strategy. They were also unclear as to what role it played in decision-making or prioritisation by RGC. And they perceived an implied hierarchy whereby ‘international significance’ suggests greater quality, value or significance as compared to ‘mere’ local interest. The Task Force recognised the discomfort expressed with both sets of terms and the concerns they provoked, and suggests that the RGC reconsiders – or discontinues – their use.

V. Impact and Benefit

16. Worldwide, there is a growing debate about how the impacts and benefits of expensive research can be captured, described and measured. It would be premature to claim that this debate is in any way settled (measuring research impacts is difficult in part because of the complex factors mentioned above). Nonetheless, there is rapidly growing interest in this matter and funders in several jurisdictions have devised various means of assessing research impacts. The intention is both to justify and steer investment, and to remind the research community of its potential to deliver benefit for wider society. One of

the key issues will be to determine when and for which programmes impact is used as an evaluation criterion.

17. Perhaps because it has only recently been introduced as an element in the next RAE in Hong Kong, the Task Force noted the relatively under-developed debate about what is called ‘research impact’ in the UK, Australia and elsewhere. Beyond the old binary of ‘basic’ and ‘applied’, the RGC might consider how it could significantly increase Hong Kong’s engagement with this global discussion to enhance the delivery of benefits and evidence for them.

VI. Portfolio Balance

18. The Task Force notes that around 80% of awards are made in what, internationally, is generally called ‘responsive’, ‘bottom-up’, ‘investigator-led’ or ‘curiosity-driven’ mode. This may be because the RGC’s role as the principal public funder of research in Hong Kong – and the relative scarcity of other funding options – leads it to adopt more open and accommodating schemes than in other jurisdictions.

19. While there is no doubt that it is essential that the major part of any thriving research culture will be conducted in this mode, comparable jurisdictions create more considerable opportunities for delivery of ‘thematic’ or ‘strategic’ research when, for whatever reason, a funder is of the view that a certain area should be a priority. This may be because the area is new or emerging and therefore needs stimulus; or because it is currently under-developed or under-provided and opportunities are being missed; or because the topic is thought to be of special or pressing importance. It should be noted, however, that, except in very short term instances, over-directive systems do not tend to be productive of quality. This is because it is notoriously difficult to predict research ‘winners’, and because any definition of priorities requires specialist judgement and guidance. In many jurisdictions, therefore, strategic or thematic approaches are developed with significant input from expert developmental or oversight boards or committees, often including members from overseas.

20. A related topic is also worth mentioning. The Task Force noted that while attention was given to organisational or researcher-to-researcher collaborations, there was limited consideration of the difficult issue of stimulating and supporting interdisciplinary research between disciplines and institutions or, for that matter, through overseas collaboration. This is a topic that is of increasing global interest because many complex research problems require interdisciplinary methods. One approach to building capacity in this area has been to fund low-cost networking or relationship-building awards, perhaps with overseas partners. These often target early- or mid-career researchers.

VII. The Relationship of the UGC-supported and Self-Financing Sectors

21. The Task Force recognises that the introduction of research support for self-financing institutions through the creation of an independent and dedicated endowment is relatively recent. It acknowledges the arguments for doing so, which are to increase capacity, make fuller use of talent, mentor and stimulate quality, create a more collaborative environment overall, and support the flow of research knowledge into teaching.

22. As the objectives of providing funding are different (i.e. to support high quality research versus developing research capacity and the transfer of research experiences and new knowledge into teaching), there were mixed opinions on whether the quality of what is funded was, and should be, consistent across the sectors.

23. The Task Force observed that the process remains under development and the RGC may wish in due course to consider how it can best gather evidence to determine the success – or otherwise – of this initiative.

VIII. A Conservative System?

24. We heard discussion of several features of the current system that are said to foster a conservative approach to research projects, inhibit

innovation and foreshorten research horizons. These factors included the following.

25. Delays between application and notification of award do not keep pace with the speed of modern research nor the eagerness of researchers to get underway. While researchers the world-over always demand quicker responses – sometimes unrealistically given the need for peer review – a single annual round of awards, though established for understandable reasons, is out of line with the trajectory of some other jurisdictions which have several decision points annually. We even heard a claim that delays led some researchers to avoid applying for grants for their best ideas. Phase 2 of the Review may wish to consider the advantages of increasing the number of application rounds in each year, keeping in mind the pressure this may place on the RGC's robust system of international peer review.

26. In addition, several researchers claimed that what they interpreted as a culture of serial, annual applications discouraged longer-term and perhaps more innovative and adventurous applications. These researchers saw this culture deriving more from university expectations (see IX below) than directly from the RGC. But they did note that the comparatively low ceiling for the value of individual awards, and the relatively short duration of some, encouraged this. We remark that frequent applications add administrative cost as well as consume applicant time and energy. We suggest that RGC looks at its current range of schemes and programmes to see if simplification and streamlining may be advantageous, and whether current arrangements inhibit ambition, especially with respect to the duration of awards.

27. The issue of research misconduct is clearly a source of anxiety for some and was said to make researchers more circumspect. In particular, the issue of declaring potential conflict of interest relationships for peer review (now discontinued) was said to make applicants more cautious. While this issue does not relate directly to conservatism in the choice of project, it may have an indirect bearing on the culture.

28. Finally, we heard concerns about the discouraging effect of the work required for applications that were not eventually supported. However, we note that success rates in Hong Kong are high when compared to most other jurisdictions, so the burden of nugatory work is comparatively light.

29. The health of a research environment depends to some extent on a funding system able to support a proportion of riskier and perhaps more searching projects. The RGC may wish to consider whether its current practices do this to an optimal extent. The related issue of the monetary value and duration of awards is a complex one. Asked whether, if the overall amount of funding stayed the same, researchers would favour fewer but larger awards, few wished to do so as it would reduce the number of awards made and therefore the number of researchers supported. This may, in part, be due to the relative lack of other funding options in Hong Kong.

IX. Coupling Grant Success to the Calculation of the ‘R’ Portion

30. The Task Force recognised that this linkage could successfully incentivise more productive and competitive approaches to research as it increases the reward for success and for the institutional development of effective research cultures and processes. We note that in late 2015, UGC conducted a thorough review of the ‘R’ Portion component including its principal drivers and concluded that, at least for the next triennium, the prevailing model should continue as it had served its primary purposes well.

31. However, we also heard claims that it amplified some institutional behaviours regarded negatively. In particular, researchers reported that grant gaining was increasingly used to determine key career issues such as decisions about promotion or tenure. Whether this is something that occurs to a greater or lesser extent in Hong Kong than in comparable jurisdictions is unclear. We report the perception and note that, if operated mechanically, it is plausible that such a process could discourage ambition and reinforce the avoidance of innovation or risk.

X. Towards Phase Two

32. The Task Force's brief encouraged the identification of topics that might be carried forward for consideration of Phase Two of the Review. We wish to identify the following:

- The focus groups welcomed the review and the opportunity to engage in focus group discussion; they would wish to see more face-to-face engagement between RGC and the research community;
- There was concern about the delay in coming to decision about grant applications, and a belief that there should be more than one annual application round;
- We heard complaints that the number of peer reviews received by grant applications was variable and that this was widely perceived to be unfair;
- Researchers noted the use in other jurisdictions of various forms of 'right to reply' to peer reviews to correct errors or challenge negative assumptions; the introduction of such a system in Hong Kong would be welcomed by applicants;
- Researchers reported a lack of confidence in some peer review and panel judgements and would welcome both greater transparency and enhanced training for peer reviewers and panels;
- Consideration of capping the number of awards held simultaneously by individual researchers would be welcomed;
- We have noted the anxiety surrounding some aspects of the process of dealing with allegations of research misconduct; while there was no explicit challenge to the probity of the current system, there was concern about the length of time taken to investigate and come to judgement and that this could lead to unjust suspicions;
- The on-line application process was felt not to be user-friendly, particularly when making frequent applications; we heard requests that core information might be stored and drawn down instead of needing to be serially re-entered;
- In line with international best practice, the RGC may wish to review its data collection practices to help strategic planning and evaluation;

- RGC should consider the usefulness of continuing to distinguish between ‘basic’ and ‘applied’ research and ‘international significance’ and ‘local focus’.

Recommendations

33. The recommendations are based on an understanding that the RGC is part of a wider research ecosystem in Hong Kong. As such the actions of the RGC impact on others, and the actions of others impact on the RGC. We have therefore included recommendations that relate to the research community as a whole and recognise the varying roles of the different actors in the system in maintaining and extending the performance of the research community in Hong Kong.

- 1. The RGC should continue to provide a portfolio of funding and awards of varying amounts and durations and for different career stages and disciplines to ensure both capacity building and some strategic development.**

The current funding mix allows for capacity building by recognizing researchers at different career stages (e.g. ECS) and some strategic development through schemes such as the TRS and the AoE Scheme. Researchers in focus groups commented positively on both specific schemes and on the range of schemes provided by the RGC (Section 2.1.2 of Part Two). Researchers and institutional managers were generally happy with the available mix and balance. To date, the RGC has been part of the system which has developed a high standard of academic research, as indicated through the international rankings (Section 2.1.2 of Part Two). It has also been involved in fostering a productive academic research culture, across the UGC-funded sector, and more recently the self-financing sector. The achievements of the RGC should be commended, and the RGC should be encouraged to continue to provide a diverse set of mechanisms to support its research community. At the same time it needs to consider how best to sustain its achievements in a competitive environment and how to stimulate greater ambition and

innovation in the research community.

2. The RGC should review the broader societal impact of the research it has funded.

Many stakeholders highlighted a need for more funds in the system (Section 3.1 of Part Two); however without proof of the benefits of the current funding, and an ability to show the impacts realised by the funding previously allocated, it may be difficult to justify the need for increased funding. Highlighting the impact already achieved could help to align the Hong Kong system with international systems, in line with the growing move towards the importance of research impact. There are two approaches to delivering this: an evaluation of the outcomes and impacts of schemes, or selecting and highlighting exemplars, or ‘case studies’, for example through RAE. The first option would provide a more comprehensive assessment of the impact, or otherwise from a given scheme or segment of the portfolio.

Another approach is to include impact as a criterion for application selection across the portfolio. Currently the TRS and AOE Scheme include impact as an element considered in the funding decision, but not schemes such as GRF. As noted above, there is a considerable international debate on such issues and the RGC should seek to engage with this more fully.

3. Government bodies which distribute funding could review opportunities and incentives which would promote and increase the amount of funding and diversity of funding available for research in Hong Kong.

Only 40% of UGC-sector researchers who responded to the survey had funding from sources other than the UGC and their own institution; and in focus groups researchers highlighted that the RGC is the sole source of funding for many researchers (Section 3.1.2 of Part Two). The lack of diversity of funding available means that researchers are particularly focused on receiving money from the

RGC; the research they plan to do and submit is affected by what they perceive to be fundable by the RGC. In order to increase the diversity of funding the government bodies that distribute funding could review measures to secure research funding from other sources such as industry and philanthropy.

4. RGC should consider how it might enhance its engagement activities, with an eye to supporting stakeholder involvement in its strategic direction and decision making.

In focus groups researchers commented that they felt only people at the very top of HEIs could engage with the RGC and input into RGC processes and strategy (Section 4.1 of Part Two). As a result, focus group participants valued the ability to feed into the RGC through this review. While the RGC does carry out some engagement activities, such as Town Hall meetings, the RGC should review these activities and develop new ones as needed, potentially jointly with key stakeholders, to support wider engagement from the sector. This could be addressed through a strategic review process involving the community.

5. The RGC should consider and articulate its position on a number of issues of global strategic relevance to ensure its strategic aims are met by its schemes.

Through the review, participants identified a number of areas for future strategic consideration (Section 4.2 of Part Two). These included encouraging genuine collaboration, measuring academic excellence for research serving different aims and valuing broader societal impact. Due to the range of schemes available, it is important for the RGC to review how the portfolio delivers the desired balance of factors, and the impact this has on the type of research funded, and the benefits it can deliver. For example, the desired proportions of: responsive vs strategic mode funding, funding to incentivise collaboration, and academic excellence alongside capacity building. Related to this, the RGC and other Hong Kong funders could work more closely together to ensure alignment of

funding schemes and clarity on the roles of individual funders in relation to their overall aims of funding. By aligning these strategies there is greater potential to realise the broader benefits of the academic research conducted, and ensure that research is translated.

6. UGC and RGC should consider whether, in the light of stakeholders' feedback, the 2015 review of the aims, objectives and consequences of the coupling of the value of the R-portion to HEIs and success in RGC grants should be revisited so that both the long and short term consequences of this continue to fit within the strategic aims of the funding.

The number of GRF grants, amongst other RGC's earmarked research grants that an HEI holds, is used in the calculation of part of the research element of the UGC's block grant allocation.¹ The RGC recognises that coupling the grant success to the award of the R-portion drives competition, and the UGC has carried out a thorough review of this allocation mechanism, taking into account the views of institutions, which concluded that the mechanism is helping to drive competition. The Task Force also notes that the review was considered to be of an appropriately rigorous standard. However, it is important to note the consequences and behaviours researchers perceived this drives in the sector (Section 3.3 of Part Two). In particular, researchers perceived that the use of GRF grants in the calculation of the block grant has led to GRF awards being used as a university metric in promotion and tenure at an individual level. Researchers felt this led to increased pressure on staff and inefficiency in the funding system; for example there was an expectation within HEIs that all researchers would apply for funding annually, regardless of whether a researcher felt they needed that funding for their research. There is also risk that increasing the focus of researchers and institutions on receiving competitive grant funding from the RGC makes it less likely for other funders to develop new funding options. It is important that these effects are taken into account and that the strategic purpose of the link is

¹ <http://www.ugc.edu.hk/eng/ugc/faq/q303c.htm>

reviewed to ensure the aim of the coupling is achieved.

7. The RGC should consider whether the criteria and thresholds on which quality of applications are assessed by different panels are appropriate to ensure they are in line with their strategic aims.

There was a lack of consensus on whether all research (across disciplines, types of scheme, and types of institution) was, or should be, assessed on the same quality threshold (Section 4.2.2 of Part Two). In the focus groups, some participants reported that the required level of quality was the same standard irrespective of sector and scheme, whereas others felt different scales were applied depending on the aims and remit of the funding scheme. Whilst criteria and thresholds do not need to be identical, and will depend upon the aims of the different elements of RGC's funding portfolio, they need to be explicit. Therefore this should be explored and clarified in line with the strategic aims of the RGC in supporting both the UGC-funded and self-financing sectors.

8. The RGC should review and enhance its communication activities, with an eye to improving the understanding of RGC processes by all stakeholders.

In the survey and focus groups many researchers commented that they did not feel that the RGC grants application and review process was transparent (Section 5.2 of Part Two). In addition in focus groups many researchers described parts of the process they did not understand, or incorrectly described the processes. While the RGC has communication activities such as Town Hall meetings, an annual report and website, many researchers did not feel that these currently led to clarity of process. In communication it is important to engage at all levels of the academic community, as currently researchers perceived that only those in positions of authority within their institution had direct access to information from the RGC. The RGC should therefore review its current communication activities and consider enhancing or adding to them, to ensure that all stakeholders at every level in the community have easy access to information on

RGC processes.

9. HEIs should review internal processes to ensure information from RGC flows down and reaches all staff.

In order to maximise the benefit of RGC communication activities it is important that researchers at all levels in the community have access to the same information. In focus groups, researchers from different universities highlighted varying degrees of understanding of RGC schemes and processes (Section 5.2.4 of Part Two). Therefore it would be useful for HEIs to work with the RGC to review their communication practices and ensure researchers at all levels have access to the same information.

10. Researchers should seek out an awareness of RGC processes and input when given the opportunity.

It is important that researchers themselves work to build up an accurate awareness of RGC processes and spread this knowledge. In focus groups, we heard many instances of misinformation passed between researchers (Section 5.2.4 of Part Two). This was reported to affect what researchers, particularly early-career researchers, apply for in terms of the research topic of their applications and what they request within them.

11. RGC should review its processes and streamline them to maintain fairness and efficiency.

A number of areas were highlighted throughout the review, where special consideration could be taken to improve efficiency. These included: the number of application cycles per year, the length of time taken to receive a decision on an application, declaration and associated disciplinary process and online portal for submission (Section 5.1 of Part Two). We recommend the RGC should review these and other processes in Phase 2 (as set out in paragraph X above) and ensure they are as streamlined and effective as possible. It is important to note, that independently from this report, some progress

has already been made. For example, at the RGC meeting in December 2016, it was agreed that Principal Investigators are no longer required to nominate reviewers in view of the availability of the RGC's sizable database of reviewers and easily accessible resources on the internet. There will therefore be no further instances of alleged misconduct cases due to inadvertent non-disclosure of relationships with nominated external reviewers. Other measures to be implemented include improvements to the RGC online application system to improve user friendliness, and measures to improve review quality.