Section A: Official Development Assistance (ODA) and GCRF strategy

The strategy

1.   Summarise the key aspects of your three year **strategy for development related and GCRF research activity**, including:

   a.   Your institution's strategy and priority objectives for all development related research activity funded through all sources for three years from 2018-19.

   b.   Summary of the key aspects of your three year strategic plan for QR GCRF in light of the criteria and objectives for the GCRF outlined in the guidance.

   c.   How activity funded through QR GCRF fits into your broader strategy and priorities for all development related research activity.

   d.   How activity funded through QR GCRF relates to the UK strategy for the GCRF.[1]

   e.   How your development-related and GCRF strategies relate to your wider institutional strategy for using QR.

   f.   Likely key barriers and enablers to implementing your strategy.

   g.   The key activities by which you will realise your objectives, such as capacity and capability building; mono-disciplinary interdisciplinary and collaborative research; generating impact from research; meeting the full economic cost of GCRF activity funded through other sources; rapid response to emergencies with an urgent research need; and pump priming.

   h.   The main Development Assistance Committee (DAC) list developing countries you intend to collaborate with.

Strategy for Development-related research activity

Imperial College has a broad range of ODA-related research. Our GCRF portfolio covers 11 of the 12 areas listed in the UK Strategy for the GCRF. Given the breadth and depth of our research expertise in medicine, public health, engineering, natural sciences and the social sciences, we consider that it is right that we should make a broad contribution to the aims of the GCRF. Our strategy does not, therefore, seek to narrow the disciplinary scope of our current activity, but seeks to **build on our existing critical mass** and to **incentivise researchers from other areas to engage in ODA-related research.**

Almost two thirds of our GRCF-funded activity falls under the Sustainable Health and Well Being priority. Given the size of our medical research as a proportion of our overall

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[1] UK Strategy for the Global Challenges Research Fund,
http://www.rcuk.ac.uk/funding/gcrf/challenges/

research portfolio (%), and the proportion of GCRF nationally spent on this priority (%), this is both unsurprising and appropriate. We will continue to support work in this important area, whilst also seeking to increase the activity under other themes.

In parallel, we will broaden the range of researchers from across the College who engage with the ODA agenda. In particular, we will ensure that researchers from across the College whose work could contribute to overseas development are aware of the opportunities and are supported in meeting the specific challenges which exist when seeking to achieve impacts in an overseas development context. We will achieve this both through engagement at departmental level and through the work of our six Global Institutes, which were created to address some of the most important issues facing the world today, from health inequalities and the dangers of global warming, to the opportunities created by big data and molecular engineering. Our Global Institutes are multidisciplinary by design. As well as having core staff within the Institutes themselves, they work by nucleating networks of investigators across the College as a whole. They are:

• 	The Grantham Institute (Climate Change and the Environment);

• 	The Institute of Global Health Innovation;

• 	The Energy Futures Lab;

• 	The Institute for Security Science and Technology;

• 	The Data Science Institute;

• 	The Institute for Molecular Science and Engineering.

Whilst we will not be prescriptive about which areas of the College should engage with this strategy, we are aware that our large initiatives in the areas of energy, battery technology and nutrition are likely to be particularly attractive areas.

Strategy for GCRF QR

We will use GCRF QR funds to drive forward our overall strategy for development-related research activity. We aim:

1. To promote good practice amongst researchers undertaking ODA-compliant work, sharpening the focus on partnership and impact, and ensuring that ODA-related outcomes are designed into relevant research programmes.

2. To encourage researchers whose work has potential but unrealised ODA outcomes to engage with the ODA agenda, and to consider overseas development impacts amongst the potential pathways to impact for their projects.

3. To ensure that the College's contribution to ODA activity is sustainable.

In order to achieve these aims, we will:

a. Establish a fund of c. £2m per annum to be allocated in responsive mode to researchers across the College in order to fund the direct costs of the activities described below. **(The responsive mode fund.)**

b. Allocate c. £1m per year to support the indirect costs of ODA-compliant research. **(The indirect costs fund.)**

Alignment with UK Strategy

The College's current portfolio of GCRF funding covers 11 of the 12 areas outlined in the UK Strategy for the GCRF. 64% of this funding is in the area of Sustainable Health and Well-being, with significant activity in a further 4 areas. The concentration in these areas reflects the historic profile of development-related activity in certain disciplines. The College would intend to seek to increase activity in areas where it has significant research strength but where development has not naturally been seen as the most obvious pathway to impact. The area in which the College has no existing activity (education) is, however, not a priority, in light of the College's disciplinary focus.

Alignment with institutional strategy for mainstream QR

Mainstream QR at Imperial College is allocated to Faculties as part of their core budgets. It contributes towards the Full Economic Costs of our publicly-funded research portfolio and, importantly, enables staff to devote time to research which is not yet externally funded. The strategy for GCRF QR incorporates both of these elements, but also differs from our strategy for mainstream QR in that it allows for funds to be allocated for direct costs of research (including staff time on otherwise unfunded research). This is in recognition of the need to develop and mature our ODA-compliant portfolio, and in particular to accelerate impact from existing ODA research and to generate additional ODA research by bringing investigators who have not previously been active in this area into play.

Barriers & Enablers to Implementation

The most significant barrier is related to our aim to crease the breadth of researchers working in DAC countries. Our strategy is designed specifically to address this barrier, by allocating two-thirds of the GCRF in response to bids, to support the additional direct costs of working in the development context.

Investigators typically have well-established collaborations with developed-world industrial partners that provide well-understood pathways to impact. However, feedback from some of our academic community has indicated that – whilst there is enthusiasm for

developing sustainable partnerships with partners in DAC countries – it can be challenging to understand how to forge links in countries or regions with which there exist limited connections. Moreover, our academics are eager to ensure that we are taking the lead from our DAC list country partners and that any new projects and initiatives have a clear, demonstrable benefit to the partner country.

In order to foster these new partnerships, the College has taken the following actions: firstly, we have run a series of well-attended workshops to share information and best practice about ODA compliant research; secondly, we have worked with academics who already have significant knowledge and experience of working with DAC list countries to act as mentors to other academics and map out existing links; and Thirdly, we have been able to offer small travel grants to enable members of our academic community to visit partners in DAC list countries and establish new links.

A second important barrier to the expansion ODA-related research is the financial pressure on faculty Deans to achieve balanced budgets, and in particular to prioritise industrial research which is capable of generating 100% of Full Economic Costs. Our decision to continue to allocate one third of the GCRF QR to supplement other ODA-funding which is funded below 100% of FEC is intended to signal to Faculties that ODA-related research can be sustainable, and should not be de-prioritised with respect to research which envisions traditional industrial impacts.

A third barrier to implementation of this strategy is the complexity associated with administering GCRF funds, and particularly in ensuring GCRF compliance. We anticipate making a small allocation from the Indirect Costs fund to provide additional support for this aspect of GCRF administration.

A key enabler for the strategy is the governance which the College has already put in place around the GCRF (see below), which has enhanced the visibility of ODA-related research in the College, and has provided a pool of expertise on which we are able to draw. GCRF QR funds will be allocated by a small, cross-faculty, academic-led committee under the chairmanship of the Vice-Provost (Research and Enterprise) and administered by the Research Strategy Office, with input from our Partnerships and International teams (referred to below as the **GCRF Expert Review Group**). The Group will be constituted to include established expertise in conducting development-related research, and will play a role in advising and mentoring investigators, as well as taking funding decisions.

Activities

We will establish an internal responsive mode fund of c. £2m per year (the **responsive mode fund**) which will be allocated to fund direct costs of ODA-compliant research in the following ways:

Promoting capacity and capability building. We will focus in particular on researchers who have an established track record of excellent research, but who have not previously worked in the development-related arena. Examples might include researchers working on battery technologies, currently working with the automotive sector, but whose work could also have impact in the developing world. If the transfer of their expertise from one space to another is to be successful, additional support will be required to ensure that they have the appropriate partnerships in place and are equipped with the skills to work effectively with those partners.

Generating impact from research. We will provide additional funding to researchers in order to facilitate impacts which are ODA-compliant. We would only use funds in this way when it was demonstrated that existing funding could not be used, or that additional funding would enable additional or more wide-ranging impacts.

Rapid response to emergencies with an urgent research need. In the event of an emergency where research is required which is capable of being undertaken quickly and for which established emergency funding routes are not available, we will consider bids to fund that research. Equally, we will consider cases where the rapid deployment of a technology in development by the College could have an impact in an emergency situation.

Pump priming. Consistent with our use of mainstream QR, we will allocate GCRF QR to support the early development of new ideas which are not yet at a stage to attract external funding. However, in contrast to mainstream QR, we will do this in response to specific proposals from investigators.

We do not have any preconceived ideas about the balance of funding between the four activities described above. The fund will be managed as a single fund to which investigators can bid under any of the four activities or a combination thereof. We expect that the balance between activities will differ from year to year, with rapid response to emergencies having the potential to be particularly volatile.

We will allocate £1m per year to meeting the full economic cost of GCRF activity funded through other sources (the indirect costs fund). We consider that this is essential if ODA-compliant research is to be regarded as 'mainstream' by our Faculties. This fund will also allow the allocation of additional resource to the administration of GCRF activities, in particular as regards ensuring ODA-compliance.

Priority Countries

The College works with a broad range of DAC list countries around the world and is known for being highly international. We recognise the importance of the SDGs, including SDG 17 which makes explicit the need to focus on inclusive and sustainable partnerships to achieve all of the SDGs.

In Sub-Saharan Africa, the College's partnerships have historically focused on health-related issues including infectious diseases, Malaria, AIDS, nutrition and paediatric health. There are a number of Imperial academics based in Sub Saharan African countries (South Africa, Kenya and the Gambia) who are embedded in local institutions and carrying out research. Moreover, the College's Schistosomiasis Control Initiative works with governments and local partners in 16 African countries to eliminate debilitating tropical diseases. In future, the College plans to invest more heavily in Sub Saharan Africa and will carry out a strategic fact-finding mission to Kenya and Ghana in May. The College recognises that any major new initiative must be carried out in collaboration with local partners that are a good match for our ethos and areas of expertise. As a result, we intend to focus particularly on developing strategic relationships with organisations where we are able to build productive and long-lasting links. One such example is the African Institute of Mathematical Studies (AIMS), which currently has six locations across Africa (South Africa, Rwanda, Senegal, Cameroon, Ghana and Tanzania). The College already has a number of links with the AIMS centres and will seek to expand these through: staff and student mobility, curriculum design and collaborative research. Similarly, the College intends to work closely with the World Bank's African Centres of Excellence initiatives. There have been two tranches of these projects so far and they have established 46 centres in countries in both West and Central Africa (ACE I) and East and Southern Africa (ACEII). We have already identified a number of College academics who have long-standing links with some of the ACE centres and are hoping to build on these partnerships by developing workshops, collaborative research and mentorship.

The College has a long history of collaborating with Brazil and there is significant academic interest in continued collaboration, as demonstrated by the development of the Brazil Forum – a bottom-up community of researchers interested in or working with Brazil. In 2013, Imperial signed an MoU with FAPESP under which the College co-funds collaborative research projects and academic exchange. To date, Imperial and FAPESP have awarded funding to support 18 collaborative projects. Imperial has also undertaken three Newton funded projects with Brazilian partners and one GCRF project. These cover topics including sustainable energy, Zika, and Schistosomiasis (SCI).

In China, the College is working with a wide-range of university, hospital, government and corporate partners from across the country to undertake research with development goals. In air pollution research, Imperial works with Peking University to undertake epidemiologic studies to understand the effects of urban air pollution and also collaborates with the Chinese Academy of Sciences on modelling of pollution flow through cities. In agriculture, Imperial works with the China-Japan Friendship Hospital and Capital Medical University on preventing the incidence of swine influenza and with Wuhan University on research into vaccine and single platform diagnostic for bacterial respiratory diseases. In healthcare, the College works with the National Health Development Research Centre, National Health and Family Planning Commission, and the Shanghai Institute of Medical Quality on research into data usage for better hospital management and policy development. An important current and future focus of activity is

antimicrobial resistance, with ongoing collaboration with a number of top Chinese institutions in research projects and training to prevent the spread of AMR infections. Finally, Imperial is working with Chinese university and corporate collaborators on both vaccine discovery and low cost vaccine manufacturing.

2.   Provide details of the main intended **outcomes and impacts** of your strategy.

The outcomes of our strategy will be:

1. A sharper focus on ODA outcomes in our multidisciplinary research programmes. Especially in relation to our Global Institutes, our strategy will enable us to achieve outcomes that are more relevant to the developing world.
2. More rapid translation of research into impact in the developing world. Recognising the specific challenges associated with achieving impacts on the developing world, our strategy will help to provide researchers with the resources necessary to address those challenges and to achieve specific impacts.
3. A broader range of research proposals to GCRF from a greater number of academic staff within the College. Researchers at the College are involved in the development of a wide range of knowledge and technologies which have the potential to impact on the developing world, and our strategy will ensure that more of these researchers begin to work in this context.
4. More innovative, cross-disciplinary proposals for the use of GCRF funding. Leveraging the resources provided through GCRF QR, we would expect to increase the number, quality and impact of GCRF funding proposals submitted by and awarded to the College.

The impacts of the College's GCRF strategy will include the development and deployment of a greater range of knowledge and technologies in ODA countries in order to achieve improved health, economic and social outcomes relevant to the specific context, under 11 of the 12 GCRF Strategy themes (excluding inclusive and equitable quality education).

Management of GCRF

3.   How will your HEI **monitor** and **evaluate** its progress and compliance in ODA and GCRF activity, including assessing geographical distribution of activity, outputs, outcomes and economic and social impacts?

Please describe the policies, procedures and approach you have in place to measure progress, evaluate outcomes, identify lessons learned, and ensure ODA compliance.

Under the supervision of the Council as the College's Governing Body, responsibility for the academic work of the College rests with the Provost and the Provost's Board (comprising *inter alia* the Provost, the Vice-Provosts for Research and Enterprise, and for Education and the Deans of the Four Faculties, and meeting monthly). The Vice-Provost

(Research and Enterprise) makes a monthly report to Provost's Board, and this includes details of GCRF and ODA activity, and provides an opportunity to consider at a senior level any issues which may impact on the College's ODA compliance.

The Vice-Provost (Research and Enterprise) is advised by the Vice-Provost's Advisory Group for Research (VPAGR: the College's Research Committee), which also meets monthly. VPAGR receives a report on GCRF activity each month, including details of funding applications made and awarded. These reports present an opportunity to comment on any urgent issues arising from the College's extensive GCRF-funded portfolio.

In future, these reports will be supplemented with an annual progress, compliance and lessons-learned report. This will draw on reports produce by investigators for their funders (in the case of Research Council funded projects) and for the College's GCRF QR group (below) in the case of QR-funded projects. It will include an assessment of the geographical distribution of activity, as well as an evaluation of outputs, outcomes and economic and social impacts.

In light of the sale of GCRF funding received by the College, we have already established a **GCRF Expert Review Group.** This group was assembled from a pool of Imperial academics that had prior experience of participation in external peer review processes for ODA or similar funding, or had extensive experience of working with DAC list countries. It is tasked with 1) acting as a peer-to-peer network for investigators involved in or wishing to become involved in GCRF and ODA research; 2) assisting the College with its decision making regarding bid submissions to external GCRF opportunities; and 3) applying its GCRF relevant expertise to the assessment of applications to College managed GCRF devolved budgets, including ensuring ODA compliance of proposed activities. The GCRF Expert Review Group will in future be responsible for making recommendations concerning the use of the Responsive Mode Fund. Final allocations will be agreed by the Cross-College Research Proposals Review Group (CCRPRG), which will also approve formulaic allocations from the **indirect costs fund**. CCRPRG is a sub-committee of the VPAGR, chaired by the Vice-Provost (Research & Enterprise), and is currently responsible for making funding decisions on all RCUK devolved funding within the College.

Applications to the **Response Mode Fund** will be required to specify milestones, intended outcomes and the means by which projects will be evaluated. With a broad range of projects of different types (capacity building, emergency response, etc.), we will not be prescriptive in specifying milestones, outcomes and evaluation plans, but we will be prescriptive in insisting that investigators specify these, and funding allocations will be only be made where these issues have been given satisfactory consideration and meet **best practice expectations** of our **Expert Review Group**. We will require progress reports at least every six months (or more frequently if required by a particular evaluation programme). As with other devolved budgets, Principal Investigators will be required to inform the Research Office of any significant changes to their proposed activities and the

Expert Review Group will be used to ensure changes remain ODA compliant. Allocations from the **indirect costs fund** will be monitored using information provided by investigators to the main funder.

The **GCRF Expert Review Panel** will make six-monthly progress reports to VPAGR, and these will feed into the annual report on the GCRF portfolio as a whole.

On a day-to-day basis, the GCRF portfolio is overseen by staff in the Research Strategy Office whose role is to curate the College's research portfolio in high-priority areas (e.g. GCRF, Industrial Strategy, Global Challenges). This dedicated resource will allows the College to maintain a greater level of strategic oversight of these areas, to provide support for additional compliance requirements and to provide proactive support to investigators active in these areas.

Section B: Use of QR GCRF 2018-19 allocation and future QR GCRF priorities

4.　　Please complete the table in Annex A2 detailing the expected spending and activities for QR GCRF in the academic year 2018-19. Note that the total QR GCRF spending must equal the indicative allocation (available in Annex C), and all activities must be ODA-compliant for strategies to be assessed as ODA-compliant overall.

5.　　Please add here any explanatory notes on how you have completed the table in Annex A2 that will help inform assessment of ODA compliance.

At this stage, the College is seeking to maintain the maximum possible flexibility in the allocation of funds. Therefore, funds have been allocated to the two main areas descried above, i.e. to establish a responsive-mode fund of c. £2m and to establish a fund of c. £1m to support indirect costs.

We consider that a responsive-mode fund is the most effective way to increase interest in ODA research, particularly amongst those investigators not currently active in this area but who could have significant impact. We have deliberately not pre-allocated funds, as this would be likely to disproportionately benefit investigators already active in ODA work, whereas we see GCRF QR as providing a unique opportunity to increase the pool of investigators and therefore the range of knowledge and technologies available to benefit the developing world.

6.　　How would your **priorities and activities** for 2018-19 QR GCRF change if the funding level differs from that outlined in indicative allocations? Please include detail of how priorities will change with increases and decreases to QR GCRF funding, and details of how each priority meets ODA criteria.

We would adjust the levels of the two funds described on a pro-rata basis.

7.   Based on indicative funding allocations, what are your **priorities** for QR GCRF activity in 2019-20? Please include detail of how priorities will change with increases and decreases to QR GCRF funding, and details of how each priority meets ODA criteria.

At this stage, our priorities for 2019-20 are the same as for 2018-19, i.e. the two funds referred to above.

As part of our annual review of effectiveness of our GCRF funding, we will re-assess the priorities for responsive mode fund, including the balance of activities (capacity building, emergency response, etc.), the priority areas, geographic spread, and the balance of new versus established investigators. VPAGR will have the right to adjust the instructions given to the GCRF QR Committee as to how distribute its funds within these broad parameters.

We will also keep under review the balance of funds between the responsive mode fund and the indirect fund, in order to ensure that neither funds has a greater allocation than it can spend within the terms of ODA-compliance, but also that both funds continue to benefit from a level of funding that ensure that they remain meaningful and effective.

8.   Based on indicative funding allocations, what are your **priorities** for QR GCRF activity in 2020-21? Please include detail of how priorities will change with increases and decreases to QR GCRF funding, and details of how each priority meets ODA criteria.

At this stage, our priorities for 2020-21 are the same as for 2018-19 and 2019-20: please see above.