Striking the Balance

Between Competition, Collaboration and Impact in International Development Research Calls & Programmes

The UK Collaborative on Development Sciences (UKCDS) brings together a group of 14 UK government departments and research funders working in international development. This briefing has been written by the UKCDS Secretariat. UKCDS is grateful to all contributors and reviewers.

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Introduction

With the recent rise in international development research funding in the UK, fostering collaboration, impact, and interdisciplinary working in a global challenge-led context, are now increasingly important issues for funders. These issues are complex and need to be integrated into systems designed to promote competition between research teams as a mechanism for quality. These considerations cut across UK research funder programmes, and funders are increasingly being asked to think about how to embed them in the processes they use. Balancing these three considerations – competition, collaboration and impact (CCI) – and their interrelationships is at the heart of international development research calls and programme design.

About this report

UKCDS has aimed to bring together learning across funders to help reflect on existing approaches to fostering CCI and support future decision-making on research call models in international development. This analysis is based on information gathered at a cross-funder workshop[1] and UKCDS research and institutional knowledge of funder approaches. Unless otherwise referenced, the conclusions are from the workshop or based on individual funders' comments. The report summarises information on the following questions:

1. **What works well in fostering competition, collaboration and impact during research call processes in international development?**

2. **What recommendations are there for funders in future research call and programme design in international development?**

The report is aimed at staff in research funder organisations, particularly those working in a practical role in research call and programme design and delivery in international development. Also, for those new to the international development field. We hope this analysis will help to inform how funders apply research commissioning models in an international development context. Researchers in international development may also find the analysis useful in understanding funder drivers and approaches in development research programmes.

Scope

This analysis has focused on the research call process from the perspective of the research funder. It does not look at closely at competition, collaboration and impact from a funding recipient perspective e.g. how to run or manage effective research projects/consortia. Although the workshop covered approaches to innovation, in practice most of the discussion focused on other impacts and mechanisms. The scope of the analysis is on international development research calls, but this learning will also be of use to other calls administered by funders.

[1] UKCDS' Competition vs Collaboration workshop held at the Wellcome Trust in London, May 2016, brought together 17 participants from the Arts and Humanities Research Council (AHRC), Biotechnology and Biological Sciences Research Council (BBSRC), Department for International Development (DFID), Economic and Social Research Council (ESRC), Natural Environment Research Council (NERC), Overseas Development Institute (ODI), Research Councils UK (RCUK), UKCDS and the Wellcome Trust.

Key Findings

There are multiple ways in which funders can design international development research call schemes. See flow chart diagram in Annex 1 and table in Annex 2 for an overview of CCI activities across the research call process. This section explores key areas to consider and approaches that can be used to foster CCI.

1. Competition

A competitive environment for research funding among academics is essential to drive excellence. OECD has identified a clear international trend towards more competitive funding[2] (shifting away from block grants). Competition is considered as an incentive to excel and can motivate individuals to strive to do better than other researchers. From a funder perspective, a competitive process can support quality assurance and raise quality levels.

Funders found it hard to score to what extent research commissioning activities encouraged competition at the workshop and had more strategies for fostering collaboration than competition. Funders usually implement competitive funding processes that are underpinned by standardised assessments of bids and proposals with peer review, and an open chance and opportunity given to all eligible institutions. Competition is built into the process.

In order to promote competition, funders can:

- Utilise networks and events/conferences to inform widely and generate interest.
- Implement wide and targeted promotion and engagement at the pre-call stage to encourage bids from the not-so-usual suspects, particularly from those who may not yet have applied their research to an ODA context.
- Offer guidance on bids to support the competitive process.
- Implement workshops at different stages - this brings applicants together so communities know who is applying and can re-adapt, which can sharpen or focus competition.
- Organise sandpits where participants divide into multiple teams to develop proposals, only one of which will be funded – these can be highly competitive.
- Use approaches such as interviews, panel reviews of anonymous proposals and project pitches at the proposal stage – for example in some calls ESRC has used 'pitch-to-peers' where shortlisted applicants present proposed research projects to other shortlisted applicants and panel members, who then score these pitches before a Commissioning Panel makes its final funding recommendation.

Successful competitive processes often depend on the willingness of applicants to take part. How tightly or loosely specified a call is can affect competition, it can be niche and promote fewer applications or be loose and promote open competition. A call offering multiple awards rather than a single large grant will also promote competition. Where only one grant is to be awarded, this often

[2] Building on Success and Learning from Experience: An Independent Review of the Research Excellence Framework (July 2016) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/541338/ind-16-9-ref-stern-review.pdf

results in the academic community self-organising and only a single proposal being received. This can be seen as a 'closed shop' and be difficult for new researchers to enter the field.

Recent drivers to demonstrate impact e.g. through the Research Excellence Framework (REF) have changed the nature of competition amongst UK organisations, now adding focus on impact on the ground to the quality of science. For academics, the pressure of competition and deadlines can affect quality and performance and result in poor collaboration[3]. There is also now competition between UK researchers over collaboration opportunities, with many southern organisations being contacted by multiple UK research institutes to partner. The leading partner in a particular country may get flooded with offers. It can be an anti-competitive process if there are a very few partners of required calibre in a particular study LMIC.

2. Collaboration

The increasing move towards addressing global challenges has resulted in a greater need for collaboration across different research disciplines and contexts, as an individual researcher or group rarely has all of the necessary skills or expertise to sufficiently explore and address complex development issues. Collaboration can secure impact from the research investment; with the funded researchers ideally working together to yield scientific outcomes that are more than the sum of the parts.

For funders key issues in promoting collaboration include:

Fostering joint collaborative working and equitable partnerships across different countries

Research collaboration is further complicated in an international context where North-South and South-South research partnerships are seen as key to successful development science, but face challenges in fairness and equity. Recent reports suggest that international collaborative research gains more attention than national research and is cited more frequently[4]. Although collaboration can stimulate essential new thinking there are some cases where collaborative research has resulted in fewer outputs due to the complexity of setting up partnerships. In addition, co-production is not guaranteed to result in true and equitable collaboration. Collaborative working across different countries is growing within regions e.g. Africa-Africa collaborations,[5] although UK funders tend to support more North-South partnerships. Fewer Southern academics have been successful with applications to lead bids funded by UK research funders.

Fostering interdisciplinary collaboration

To help solve the global challenges facing society – e.g. fair and sustainable access to energy, water, food and health – researchers across different disciplines must work together[6]. The challenge of

[3] The culture of scientific research in the UK (Nuffield Council on Bioethics, 2014).

[4] Comment: A well-connected world (Adams & Loach, 2015) provides a snapshot of articles in the Nature Index and global scientific collaborations, and The Implications of International Research Collaboration for UK Universities (Adams & Gurney, 2016) discusses EU and global collaboration.

[5] Developing Partnerships, Nature article on collaborative research in Africa and Central and South America.

[6] Why interdisciplinary research matters (Nature, 2015).

creating and sustaining effective interdisciplinary research partnerships is well-recognised[7]. Disciplines are more used to competing with and within each other rather than collaborating[8]. However, funders have found it easier to foster collaboration within well-established disciplines rather than in an interdisciplinary way. Pressure to publish in high impact factor journals is a disincentive for multidisciplinary working[9].

Enabling Southern researchers to engage and participate

Enabling Southern researchers and other stakeholders to engage and participate is a key challenge for funders. Calls are often poorly publicised in the south, and southern researchers are faced with little time to make strategic choices about partners and limited funding to participate and collaborate with international partners, particularly in the early stages. In addition, web-based applications and administration systems used by some UK funders can make it difficult for southern organisations to apply – requiring detail, requirements and formats that may be unfamiliar, confusing and hard to put together under tight deadlines e.g. written approvals from Heads of Institutes. Northern universities may already be familiar with these processes and registered on systems. If southern partners are contacted later on in the proposal development process, this further limits time to engage. Institutional eligibility can also be a barrier for southern organisations to receive awards if they do not satisfy certain governance criteria required by UK funders, such as thorough due diligence or funding assurance mechanisms. If southern organisations operate on soft funding alone (not core funding) this can be a barrier to leading bids, being paid in arrears, or meeting standard reporting expectations. A further barrier is the UK peer review culture which promotes a focus on research excellence above southern partnership and sensitivity to low and middle income country participation[10].

2.1 Activities to foster collaboration

Research funders can build in collaboration at three different stages during a competitive research commissioning process (pre-call, during call and post-award). This can bring together usual and unusual suspects in interesting ways, fostering both interdisciplinarity and innovation. There are multiple ways in which funders can design their scheme to enable international collaboration, these are summarised under different stages. These are described in the following sections and figures 1 to 3 and 6.

[7] On the Agenda: North-South Research Partnerships and Agenda-Setting Processes (Bradley, 2008).

[8] Interdisciplinarity: Survey Report for the Global Research Council 2016 Annual Meeting (Gleed & Marchant, 2016).

[9] The culture of scientific research in the UK (Nuffield Council on Bioethics, 2014).

[10] Changes to UK ODA research funding (Kinn, DFID, 2016)

2.1.1 Pre-call stage

Figure 1 detail activities funders can use to foster collaboration before the launch of a research call.

Fig.1: Activities at pre-call stage to promote collaboration

Activities	Strengths and considerations in promoting collaboration
Stipulating collaboration in a call specification	Collaboration either internationally or disciplinary can be enforced through the design of the call (e.g. principal investigator/co-investigator models, consortia models) and stipulating cross disciplinary working as an assessment criterion. If not specified, there is no guarantee of collaboration in a proposal. A tight or loosely specified call will affect potential collaboration. Collaboration is often a prerequisite for support from donors in an international development context, but this varies by fund and funder. It is important to identify early on what level of collaboration is envisaged or needed.
Providing additional and staged funding	Collaboration can take time; for instance, it was only in year four that connections were realised in many of the 70 research projects funded through the Africa Adapt programme. Providing additional and staged funding can provide time and resources to build partnerships. For example, a recent GCRF capability call is providing grants to set up partnerships over the first year of a four year grant; and Wellcome have offered candidates shortlisted following preliminary applications a 'planning grant' (£30k/4 months) to develop applications/partnerships for a full proposal in their Our Planet, Our Health programme.
Scoping workshops	Scoping workshops involve discussion by scientists to articulate science problems that need to be addressed, usually followed by an announcement of opportunity. Scoping workshops promote informal networking and discussion, rather than formal collaboration, but could lead to future connections.
Pre-call announcements	Pre-call announcements can provide time for applicants to develop proposals and develop collaborations. Interested applicants can forward the announcement to potential partners to broker initial interest. However, it is generally a passive approach to promoting collaboration.
Pre-call networking workshops	Pre-call networking workshops can include speed-networking and foster UK-UK, UK and international, and international-international collaborations. Use of research networking platforms (e.g. Pirus, ResearchGate) can also be encouraged. Workshops are resource intensive, costly, and often harder to coordinate if overseas as there is reliance on an international partner. The design of the process is also important; funders need to think more creatively about getting different groups to work together; and facilitating participants who may not open to sharing ideas in a competitive process.
Online partnership brokering service	This is an online facility that allows scientists to register their details, expertise and interest in a call and find out the details of others that have registered in order to develop collaborations. It stays open throughout a call process. The Belmont forum is an example of research matching. However, it is unclear how well this activity has worked or how widely applicable it would be.
Catalyst/innovation/ foundation grants or pump priming/ seedcorn funding	These are funding models for supporting emergent research ideas such as pilot and proof of concept studies that could lead to larger sustained funding. From a collaborative point of view, the process can include workshops for partnering and pitching and provide opportunity for partnerships to develop. It can also help if funders are under pressure to allocate funds quickly. For effectiveness, it can give more time for the academic community to prepare for a subsequent larger call by allowing a staged approach with an initial phase of funding.

2.1.2 During call stage

This section (including figure 2 and 3) describes activities funders can use to foster collaboration at the research call announcement and outline bid/full proposal stage.

Fig.2: Activities at research call announcement stage to promote collaboration

Activities	Strengths and considerations in promoting collaboration
Launch events/ Online webinars (can also be done at pre-call stage)	Launch events can promote awareness and expand on the scope/aims of a programme - they create potential networking opportunities rather than formal collaborations. Webinars are an online opportunity provided by funders for interested applicants to hear the needs of the call before or when it is announced. They can include real time questions and can be innovative, engaging international partners in multiple countries. Implementing webinars at different time zones can ensure wider southern participation. This activity can be used to facilitate new international groups or interdisciplinary connections, particularly across different funding partners. To promote more face-to-face southern participation and engagement, the Ecosystems Services for Poverty Alleviation (ESPA) funded by NERC, ESRC and DFID commissioned a team to undertake a 'roadshow', visiting key southern regions to explain the requirements, focus and objectives of the project, and respond to subject matter and procedural questions, much like a help desk. These were heavily subscribed to and well attended, but it is unclear whether there was a correlation between engagement at these events and successful bids.
Networking/ collaborative workshops	Networking workshops are good for bringing together stakeholders from different contexts and sectors together. The Newton Fund has in-country workshops to bring two countries to foster cross-country collaborations and cross-disciplinary working. A speed-dating element is usually involved and considerations around different cultures in networking need to be taken into account. This activity should only take place when required i.e. bringing together a new inter/multidisciplinary group or international groupings that have not worked together before. If numbers are limited, it can be a restrictive small group to foster collaborations. Some workshops have been done in the UK, but bringing overseas researchers to participate can be costly and may be a barrier to southern participation. Bringing scientists together during a call can enable collaborations to evolve. NERC's Changing Water Cycle programme (2010 – 2015, £2.8m) used an initial workshop to bring UK and Indian scientists together, which led to five projects being funded. Collaboration and sharing of data was ad hoc within the programme, but project teams have collaborated in subsequent bids.
Sandpits	Sandpits are interactive residential workshops which can involve development and assessment of proposals during the workshop, or the two stages may be separated. Some sandpits develop outline proposals which are shortlisted in the sandpit, and full proposals are developed and assessed later. They usually have a multidisciplinary mix of participants, including researchers and other potential users of research outcomes. Appropriate selection of attendees is critical and the process needs to be well designed to promote interactive engagement and wide perspectives. They provide space for collaboration and are good for bringing together people with different backgrounds, styles and disciplines who would not normally interact. They also

	promote creative thinking and problem solving. However, sandpits can be highly competitive in cases where the organisers require the participants to divide into multiple teams to each develop a proposal, only one of which will be funded. There is also a danger they may force rather than build collaborations, potentially exclude certain people (e.g. southern researchers/users, those with caring responsibilities) and risk being dominated by 'the loudest voices' and resulting groupthink. They can be labour intensive with potentially high workshop costs involved, particularly if professional facilitators are used. See further information on sandpits from EPSRC.

Traditionally, funders have focussed on the research call announcement stage, but funders reflected at the workshop that it may be better to focus on the pre-call stage as collaboration can be greater when a call is less well defined.

Fig.3: Activities between outline bid and full proposal stage to promote collaboration

Activities	Strengths and considerations in promoting collaboration
Outline bids	Activities during this stage e.g. 1) Project pitch 2) Expression of Interest (EOI) 3) Concept note and/or 4) Outline bid, do not by definition encourage collaboration. However, they do provide applicants' time to develop their ideas with partners and enable funders to manage demand for collaborative research. If peer review is used at the outline bid stage, criteria may include collaboration.
Matchmaking	Matchmaking can be used between the outline bid and full proposal stage to identify synergies or potential collaborations. It can also be used at different points in the call process, but may pose issues at the post outline bid stage if you require two proposals to come together. The potential for cross-fertilisation can be harnessed and funders can steer proposals to align with key themes and geographies. Matchmaking can stimulate the development of novel and innovative collaborations. However, funders are usually reluctant to 'instruct' groups to work together during the competitive phase of the programme, as there is no guarantee that the relationship will work or the new collaborations will be funded.
Funding for researchers to adapt proposal or collaborate	Funders can ask grantees to collaborate or adapt proposals for an integrated and coherent programme. For example, NERC's South Asia Monsoon programme, asked three selected outline bid projects to be developed as full proposals as an integrated programme around a common observational campaign. It was fortuitous that NERC could make the final selection at the outline stage, but it resulted in a more coherent programme. "Glue money" refers to funds that can be provided for researchers to map or network with stakeholders, or engage with other shortlisted bidders. Unless funding is guaranteed researchers may be unwilling to adapt proposals or collaborate. Collaboration depends on how you design this activity, willingness to take part and on to what extent concepts can be changed. Funders need to consider the limits of revision vs respecting the integrity of the research and independence of researchers. This activity can add up to four months to the whole commissioning process.
Workshop to develop proposal after outline bid	If the feedback on the outline bids has required this, funders can organise workshops to provide opportunity and money for successful outline bid applicants to network with each other, see where they may be able to

	collaborate and promote joint working to form full bids. This activity can be good for forming collaborations, particularly amongst researchers that are keen to collaborate and help join up those previously not connected. It also enables discussion and dialogue between funders and applicants to ensure that proposals address call objectives e.g. truly cross-disciplinary, strong local collaborations. The process does not determine who should work together or force people to work together. Funders usually do not promise funding awards until the end of the process to ensure there is active participation. For participants, there is no guarantee that they will be a successful grantee - they will still be assessed – and funding needs to be guaranteed in order for future collaboration to take place. A key question is whether funders should hold an initial proposal development workshop before or after a call. If during pre-call stage, a scoping workshop would not be needed.
Full proposals (with peer review)	At the full proposal stage where collaborations have already been set up, the quality of collaborations needs to be specified as an assessment criterion. The quality of interdisciplinary working may also be judged at this stage. Assessments may consider the strength of existing partnerships with developing countries, partnership development processes that promote equal working and the potential for long-lasting collaborations. Funders may also try to balance their support to both established and new or innovative collaborations.

2.1.3 Post-award stage

Post-award activities can be used to introduce and bring grantees together, enable learning, networks and networking, sharing (of information and data), joint research uptake and impact activities. Activities during this stage often have a dual purpose for promoting scientific collaboration and impact. They can involve light touch introductions and networking or more substantive or sustained efforts to promote collaboration and impact. For example, the ESRC-DFID Raising Learning Outcomes research programme has appointed a programme research lead to maximise the scientific value of the programme by identifying and supporting research synergies across grants funded through multiple calls that had a different but complementary thematic focus. This role has similarities to the Directorate model (see section 4) but focuses on research and collaboration, rather than CCI as a whole. Further details on post-award activities to support collaboration have been included in the Impact section (see fig.6).

3. Impact

Research is seen as central to drive development impact and is being increasingly supported by Governments in LMICs and international funders. There is increasing pressure for funders to demonstrate and account for the impact of research they fund in international development. In the UK, the emergent focus on impact e.g. through the REF, has changed the drivers for impact as demonstrating impact is linked to receiving institutional funding. This has resulted in cases of

embellished impact and a perceived compromise in research integrity and standards[11]. In an international development context however, researchers are being required to shift from demonstrating research excellence alone (high quality research making academic advances), to also proving connection to benefits on the ground in developing countries.

Research impact can be seen at different levels in an international development context, including:

- *Developmental impact:* broader societal, economic and environmental impact, and contribution to poverty reduction in the poorest countries.
- *Policy impact:* influence on key policy processes and evidence-informed decisions.
- *Practice-level impact*: influence on development practice and development practitioners.
- *Conceptual impact*: influence on how people think about development issues.
- *Capacity development:* strengthened capacity to produce, communicate and use research in LMICs.
- *Collaborative impact:* development of long-lasting, innovative and interdisciplinary collaborations that can transform global development.
- *Knowledge as a global public good:* open and beneficial to all with open access to research and data increasing potential impact.

To promote research uptake/policy influence and impact in developing countries, funders can use multiple approaches at different stages of the commissioning process. These are described in the following sections and figures 4 to 6.

3.1 Pre-call Stage

Figure 4 details activities funders can use to foster impact at the pre-call stage.

Fig.4: Activities at pre-call stage to promote impact

Activities	Strengths and considerations in promoting impact
Call design and specification	Timing matters and announcing calls in good time before key policy influencing windows or after key reports can make it a timely and impactful interaction. Funders can also ask applicants to describe their theory of change, strategy and pathways for research impact in policy/practice, including stakeholder engagement and M&E plans; as well as recommend that projects promote engagement with research users early on in design. All major UK funders have a commitment to open access in their grant conditions. Open access to research and research data can enable potential for further impact.
Design programme or hold back money for integration	Coherence and integration within a programme can add value, and strengthen the likelihood of impact and align research uptake activities - funders can develop a call with complementary themes and structure or hold back money for integration to do this. For example, DFID, NERC & ESRC's UpGro Programme (2012-19, £12m) Integration Plan held back £500k for coordination and logistics; knowledge exchange; data management; and drawing the programme together scientifically. Specific integration activities were funded post award.

[11] Artifice or integrity in the marketization of research impact (Chubb & Watermeyer, 2016) http://www.tandfonline.com/eprint/BNcrdTIpVaCStSmK8g6V/full

Scoping workshop/ Expert Advisory Groups	During these activities, experts advise on and set scientific scope that has the potential for impact in developing countries. These activities can take place before or after a pre-call announcement.

3.2 During call stage

Figure 5 details activities funders can use to foster impact at the during call stage.

Fig.5: Activities at during call stage to promote impact

Activities	Strengths and considerations in promoting impact
Funding for researchers to adapt proposal or collaborate	This can lead to a coherent programme where research uptake and impact activities are more aligned. This would ideally be backed up with dedicated post-award funding in uptake and impact.
Catalyst grants	This can enable innovation and the commercialisation of research.
Providing feedback on applications	Regular contact between funders and applicants developing full proposals gives greater opportunity to guide/steer for impact.
Peer review	Assessment in peer reviews can focus on the likelihood of developmental impact such as contributing to socio-economic welfare of a country, poverty reduction and reaching the poorest, as well as strength of impact, stakeholder engagement and monitoring and evaluation plans. Plans for strengthening research capacity will also be assessed at different levels e.g. individual, organisational, and institutional. The expertise of peer reviewers to assess capacity development needs to be considered. The potential impact of interdisciplinary working may also be judged at this stage. However, it has proven harder to conduct peer review if bids are more collaborative and interdisciplinary, as peer reviewers often stick to expertise rather than judge these aspects. Wellcome Trust's Our Planet, Our Health programme is trialling replacing peer review with a larger committee meeting including representatives from individual disciplines, inter-disciplines and users including from in-country organisations.

3.3 Post-award stage

Figure 6 describes activities funders can use to foster both impact and collaboration at the post-award stage.

Fig.6: Activities during post-award stage to promote impact and collaboration

Activities	Strengths and considerations in promoting impact and collaboration
Introduce grantees	A light tough approach can be used to introduce grantees - an important step early on if you want grantees to collaborate for impact.
Post-award workshop	A post-award workshop/kick off meeting can be used to bring successful applicants together to enable networks; encourage organisations to share information and data; and support integration of projects and impact.
Post-award funding	Funding can be made available for specific activities post-award e.g. enable networks/organisations to share information and support impact. These activities can be a follow on from a post award workshop and the principal investigators be given responsibility to engage with this additional funding.
Programme Conference	A conference for a programme can be used to bring together a wide range of stakeholders to share learning around impact and promote mutual learning

	around approaches to research impact. It can also provide a space to share early findings, methodologies, and look for scientific synergies and cooperation activities. It can be a one off or annual event.
Programme-level research uptake support function/ evaluation	Coordinating functions for research uptake and impact can be supported at programme level e.g. within ESRC and DFID's strategic partnership this type of function is being used to support several programmes: see the Impact Initiative and the Growth Research Programme Evidence and Policy Group (DEGRP). This can provide dedicated resources to target findings and learning to the right audiences at a collective level, as well as build the capacity of grantees to plan for and respond to opportunities for impact. Collaborations with other stakeholders can also develop through research uptake/impact activities e.g. academic/business collaborations. Expert knowledge brokers can also be utilised to enable impact of research and can be funded in-country e.g. DFID, NERC & ESRC's UpGro Programme funded an external knowledge broker. For some projects this is vital and can ensure that the impacts on the relevant community are realised, providing an entry point to policymakers and other stakeholders that researchers do not traditionally have access to. Knowledge brokers can also be embedded in grantee or funder organisations. An external evaluation team can also be funded to demonstrate the impact from a research fund. Additional funding needs to be provided to make this happen.

3.4 Other considerations in promoting impact

Promoting capacity development

Funded research programmes in international development have increasingly sought to embed capacity building to strengthen research capacity in southern teams and institutions, and promote capacity exchange amongst partners. This has been done with varying degrees of success. Funder approaches include stipulating types of support in call specifications (e.g. PhDs, organisational support) to overarching post-funding models that include capacity strengthening. Greater guidance from funders in call specifications is needed as well as peer review expertise in this area.

Using flexible approaches in programme design

Themes evolve over time and flexible approaches are needed to adapt programmes - scoping activities, workshops and outline bid processes can add an additional 6-12 months onto a research call process, which means themes can inevitably fall out of date. Time lags can affect potential impact. Flexibility in rapidly changing global contexts is particularly important - researchers and funders can use various responsive approaches. For example:

- Tweaking the scope of a research programme mid-way e.g. changing an idea or making slight adjustments to a programme.
- Announcing fresh calls if there is a dramatic change e.g. Zika virus.
- Adapting a programme to incorporate a new country.

Areas for further exploration for funders include:

- Ensuring activities that define scientific scope focus more on outcomes and impact.
- Keeping track of themes that have emerged during scoping but remain un-funded, or re-allocating these themes to other funding streams.
- Linking multiple calls across funders to maximise impact.
- More targeted support for independent knowledge brokers who broker research from all possible sources (beyond funders' own portfolios).
- Shifting to a demand-led approach (rather than supply-led) through scoping country and decision-maker needs first and thinking about interventions in political context.
- Exploring how to promote impact from research (e.g. in environmental sciences) that will see long-term impact beyond the lifetime of the funded research programme.

4. Overarching models for CCI

Post-funding models are often used by funders to coordinate research and/or impact activities. These centralised models take on multiple roles and have to think about competition, collaboration and impact. They can be used to help research activities run smoothly, promote regular interaction between researchers, respond to country needs and support research uptake and capacity in developing countries. Two models used by funders – a Directorate and Research Programme Consortia (RPC) – are detailed below.

4.1 Directorate

A directorate is an overarching science co-ordination centre. Funders create clusters of grants and fund a centre to coordinate these. A science coordinator is usually appointed and the centre is expected to work closely with the funder. This centralised model helps make the process of research activities run smoothly and sees regular interaction of researchers e.g. principal investigator meetings every six months. The Directorate inputs to the design of calls in collaboration with the funder (e.g. minimum parameters are usually set by the funders). They may have multiple themes running, and look to integrate activities between themes. For example, Ecosystems Services for Poverty Alleviation (ESPA) funded by NERC, ESRC and DFID has issued a series of competitive calls for consortia proposals and additional support for activities e.g. capacity building, research into use, knowledge synthesis and evaluation, so looking across CCI.

4.2 Research Programme Consortia (RPC)

RPCs are competitively funded multi-year thematic research programmes funded by DFID involving 5-10 global research partners with a lead institute. The RPC model is usually made up of three broad outputs and can be effective: generating research, promoting research uptake and building local capacity. Research is informed by researchers and users, and responsive to country needs. However, sometimes this does not lead to a coherent programme as too many research themes are covered. RPCs also have to manage consortium aspects (e.g. partnership working) and capacity support is sometimes not sustainable in the longer term, for example looking at skills only and not other areas

such as organisational needs and research leadership in LMICs[12]. Success is often dependent on what percentage of funds can go to each of the three outputs. RPCs may also be expected to design and deliver additional research calls and think about CCI.

5. Recommendations for future international development research calls and programmes

The tables within this report provide a pick-and-mix of approaches and tips that funders can use to promote CCI across a research call process (also see Annex 1 and 2 for an overview). Recommendations for funders in future research call and programme design in international development, looking in turn at CCI, are summarised below.

Funders may want to consider the following:

5.1 Competition

- Ways in which to address UK competition over collaboration with southern partners, or put southern researchers in a stronger position to compete.

5.2 Collaboration

- How face-to-face workshops often provide the only opportunity for southern researchers to engage but are costly. A more cost-effective option is to promote wider participation of southern partners by utilising and improving online webinar approaches.
- Ways to make web-based applications and administration systems more user-friendly for southern organisations.
- Ways in which they can support online partnerships and online collaborative working.
- Reducing time pressures for collaborative working e.g. staged/additional funding, pre-announcements and generous deadlines.
- Ways in which they can further support southern-led collaborative bids.
- Ways to address barriers to southern organisations receiving funds e.g. institutional eligibility.
- Developing effective communication approaches with southern researchers so they hear about and can respond to calls more effectively and make strategic choices about who to partner with.
- Reducing the burden of the two-stage/multi-stage approach for international collaborations whilst retaining support to the quality of proposals.

[12] DFID's Health Research Programme Consortia (RPC): Mid term evaluation (2016)

5.3 Impact

- Holding back money for post-award activities and programme integration/coherence.
- Exploring how to support interdisciplinarity more effectively e.g. addressing barriers/providing incentives, training, time, space and structures to facilitate interdisciplinary working across countries[13].
- Improving peer review and other processes to effectively assess interdisciplinarity, capacity development, partnerships and impact.
- Offering better guidance on capacity strengthening and promoting join-up with standalone capacity strengthening programmes.
- Ways in which to address tensions in achieving research impact in international development and research excellence.
- Further investigation of overarching post-funding models where CCI is looked at as a whole.

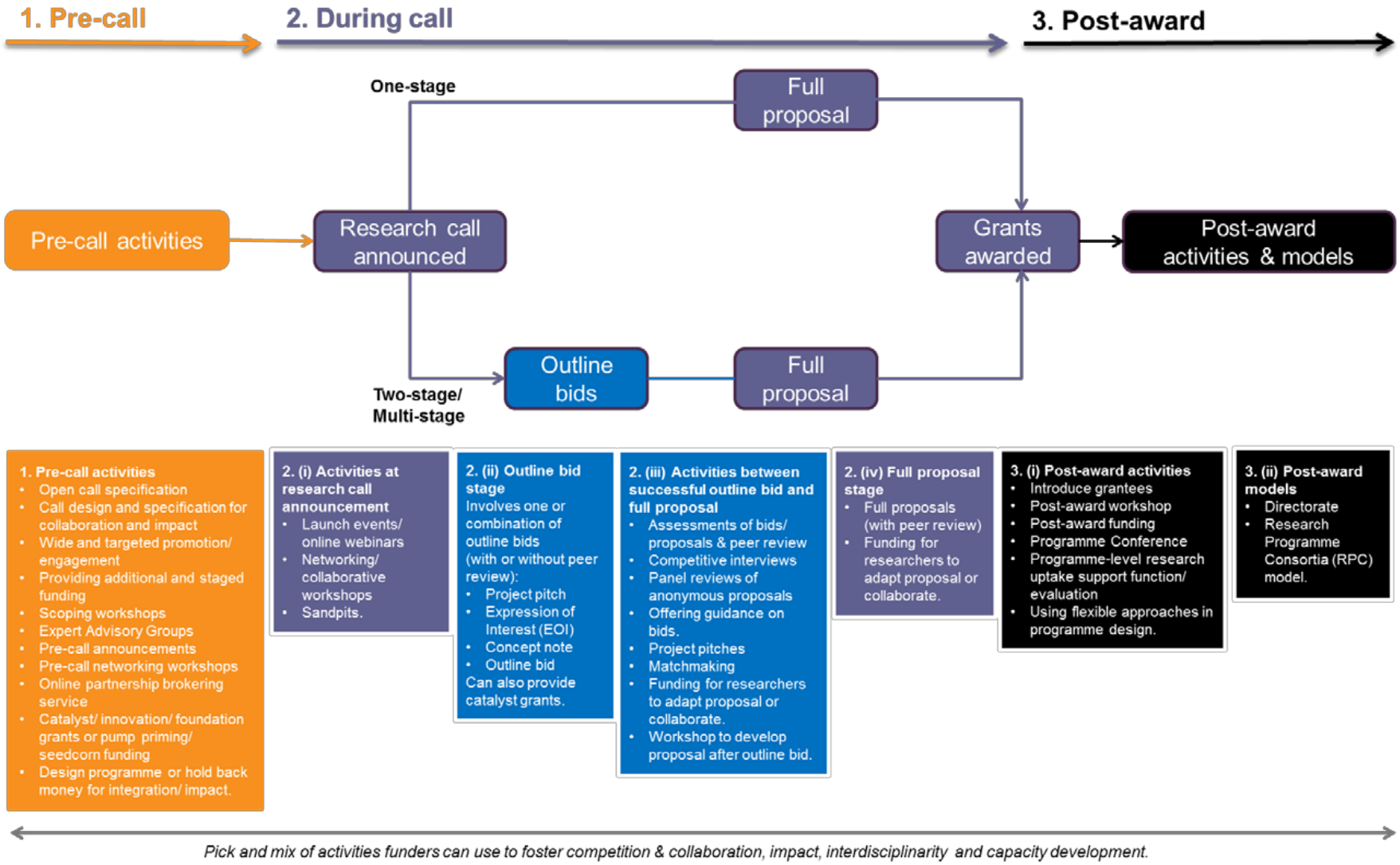
5.4 Future UKCDS work in CCI

UKCDS will be exploring best practice in supporting interdisciplinary and co-constructed research, equitable partnerships and join-up in research capacity strengthening in 2017.

See UKCDS' existing work on partnerships and capacity strengthening.

[13] These and other suggestions can be found in Interdisciplinarity: Survey Report for the Global Research Council 2016 Annual Meeting (Gleed & Marchant, 2016)

Annex 1: Research Call Process



Annex 2: CCI activities across different stages in a research call process

Activities for competition	Activities for collaboration	Activities for impact
	1. Pre-Call Stage	
• Open call specification. • Wide and targeted promotion/ engagement (e.g. utilising networks and events/conferences).	• Stipulating collaboration in a call specification. • Providing additional and staged funding. • Scoping workshops. • Pre-call announcements. • Pre-call networking workshops. • Online partnership brokering service. • Catalyst/ innovation/ foundation grants or pump priming/ seedcorn funding.	• Call design and specification for impact. • Design programme or hold back money for integration. • Scoping workshops • Expert Advisory Groups.
	2. During Call Stage	
	(i) Activities at research call announcement stage	
• Workshops so communities know who is applying and can re-adapt. • Sandpits where organisers get participants to divide into multiple teams to develop a proposal, only one of which will be funded. *Can be used at different stages.*	• Launch events/online webinars (can also be used at pre-call stage). • Networking/ collaborative workshops. • Sandpits.	• Catalyst grants.
	(ii) Activities between outline bid and full proposal stage	
• Assessments of bids and proposals with peer review. • Offer guidance on bids. • Competitive interviews. • Panel reviews of anonymous proposals. • Project pitches.	• Outline bids. • Matchmaking. • Funding for researchers to adapt proposal or collaborate. • Workshop to develop proposal after outline bid. • Full proposals (with peer review).	• Funding for researchers to adapt proposal or collaborate. • Providing feedback on applications. • Peer review.
	3. Post-Award Stage	
	• Introduce grantees • Post-award workshop • Post-award funding • Programme Conference • Programme-level research uptake support function/ evaluation • Using flexible approaches in programme design.	
	Overarching models for CCI	
• Directorate. • Research Programme Consortia (RPC).		