

THE LANDSCAPE OF UK DEVELOPMENT RESEARCH IMPACT:

An analysis of REF2021 impact
case studies

Authors

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Executive summary

The Research Excellence Framework (REF) is a national peer-review assessment of the quality of research undertaken by UK Higher Education Institutions (HEIs). This report uses the REF2021 impact case studies database to explore the non-academic impact of development research in the UK research landscape. The analysis in this report identifies key enablers to research impact and presents ways to amplify this impact. The report focuses specifically on international development research case studies, defined as those which involve research that addresses global challenges in alignment with the Sustainable Development Goals (SDGs) and results in beneficial change for Low- and Middle-Income Countries (LMICs), specific regions, and/or the global community. The case studies analysed herein include Official Development Assistance (ODA) and non-ODA funded research.

From the REF2021 impact case studies database, which includes 6,781 case studies, we identified a sample of 891 international development research case studies. From this sample, we conducted a **portfolio analysis** identifying the general patterns in the types of impact achieved across different disciplines and research areas. This was complemented by a **case study deep dive**, which involved interviewing UK-based researchers and LMIC partners involved in the impact from 10 selected case studies. The deep dive was undertaken to better understand the connections between how research is conducted and the type of development impact achieved.

This report provides a snapshot of international development research undertaken by UK HEIs in the REF2021 period (2013-2020). Based on the REF2021 definition of non-academic impact, it gives an overview of the types of impact research has in LMICs and globally and how this differs across disciplines and topics. It also provides a new framework of research enablers for impactful development research and mechanisms for supporting these. While we recognise REF2021 features a limited and selected range of research, often carefully selected for assessment purposes, it provides a unique opportunity to analyse the nature and scale of non-academic research impact achieved by UK HEIs in relation to beneficial development outcomes.

The key findings are summarised below:

- **Interdisciplinary approaches to real-world problems:** the international development research sample includes case studies that align to the wide range of disciplines of REF2021 panels and Units of Assessment (UoA).
- **Role of transdisciplinary work:** partnerships between UK HEIs and academic, public, private, civil society organisations, and/or local communities are central to research in both social and natural sciences as they lead to wider impacts and benefits.
- **Focus on wellbeing and peacebuilding:** across the four panels of REF2021, international development research demonstrated a strong emphasis on *SDG 3 Good Health and Wellbeing* and *SDG 16 Peace, Justice and Strong Institutions*.
- **Global research impact:** research outcomes addressed development issues around the world (predominantly in India, Kenya, Brazil). A large body of case studies had impact across LMICs and High-Income Countries (HICs).
- **Similar nature of impact across the REF2021 sample:** the four panels share commonalities across the different categories of types of impact and enablers of impact. Substantial differences arise at the UoA level.

- **Focus on instrumental impact:** the type of research impact most often highlighted in the sample was influencing policy decisions and practice, or behavioural changes, primarily in connection with LMIC governments and/or international governmental organisations.
- **Multiple funding sources and mechanisms:** the sample of international development research case studies was primarily funded by UK public funds, including ODA and non-ODA funding. The second largest source of funding was the European Union (EU). Blended finance from private sector, philanthropic stakeholders, and other stakeholders also played a role in supporting development research.
- The case study deep dive identified a new framework of research enablers for development impact, encompassing six dimensions: **understanding of impact, funding approaches, co-production with research users, long-term equitable partnerships, embedded capacity strengthening, and operational processes.**

This report highlights the importance of the UK's contribution to international development research and identifies ways in which impactful research can be better supported. The findings from this report may be used support efforts to increase coherence in the type of development research funded and conducted by UK HEIs. They can also support research funders and institutions to create an enabling environment for research to achieve development outcomes.

This analysis of the REF2021 impact case studies through the lens of international development represents an opportunity for the sector to reflect on broader lessons and best practices, and how these can be nurtured to support excellent and impactful research.

Abbreviations and acronyms

BEIS	Department for Business, Energy and Industrial Strategy (formerly DSIT)
DFID	Department for International Development (formerly FCDO)
DSIT	Department for Science, Innovation and Technology
EU	European Union
FCDO	Foreign, Commonwealth and Development Office
GCRF	Global Challenges Research Fund
GNI	Gross National Income
HMG	His Majesty's Government
HEIs	Higher Education Institutions
HIC	High-Income Countries
ICAI	Independent Commission for Aid Impact
IDS	International Development Strategy
IR	Integrated Review
ISPF	International Science Partnerships Fund
LMICs	Low- and Middle-Income Countries
MoU	Memorandum of Understanding
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
RCS	Research Capacity Strengthening
REF	Research Excellence Framework
SCOR	Strategic Coherence for ODA-funded Research
SDGs	Sustainable Development Goals
UKCDR	UK Collaborative on Development Research
UKRI	UK Research and Innovation
UoA	Unit of Assessment (part of REF)

Introduction

This report aims to improve current understandings on the connections between how international development research is conducted and what type of development impact is achieved. We identified and analysed 891 international development research case studies within the REF2021 impact case studies database. While this represents a significant sample size, we recognise that this report still only provides a partial picture of the international development research landscape: the focus on REF impact cases creates limitations due to selection bias within REF, the nature of REF assessment, and its connection to funding decisions. However, the REF2021 case study database remains a valuable data source for understanding the development impact of UK HEIs' research.

There is no universal understanding of international development research. [UKCDR's previous work on REF2014](#) defined 'international development research' according to its funding source, e.g., research funded through Official Development Assistance (ODA), which was largely spent by the then Department for International Development (DFID) (UKCDR, 2015). For this report, we have moved away from a funding source-based definition and instead conceptualised international development research in terms of the type and location of the research outcomes (see box below).

International development research

Research that addresses global challenges, in alignment with SDGs, and results in political, economic, social, health or environmental change for the benefit of Low- and Middle-Income Countries (LMICs), specific regions, and/or the global community.

This approach allows us to analyse research that has received different funding sources (ODA and non-ODA), including funding from multiple UK departments and government bodies as well as the public and private sectors, philanthropy, and other stakeholders within and outside the UK.

This definition of international development research also recognises the universal and multidimensional nature of today's development challenges, which require engagement with crosscutting contexts and actors beyond binaries such as HICs and LMICs (Horner, 2020). Research to address issues such as poverty, inequality, and climate change comes from diverse actors and collaborations, including both academic and non-academic actors. By defining international development research in terms of its contribution toward sustainable change and alignment with the SDGs, our analysis spans research that contributes to LMIC and HIC contexts and to global development processes through the United Nations or other multilateral development aspects.

This project was comprised of two workstreams, each guided by a question:

- 1. Portfolio analysis:** what are the general patterns in the types of impact achieved across different disciplines and research areas?
- 2. Case study deep dive:** what are the connections between *how* development research is conducted and the type of development *impact* achieved?

This report will provide UK government departments, parliamentary committees, research funders and HEIs with information about the type of development research being undertaken in UK HEIs and the impact this research has. It also highlights best practices for how actors

in the research ecosystem can maximise the impact of international development research. The findings are also relevant for those working on research and development impact more broadly, facilitating critical reflection on how impact is understood and assessed, and how funders and research institutions can best enable impact. This report presents:

- A snapshot of international development research undertaken by UK HEIs in the REF2021 period (2013-2020);
- An overview of the types of impact research has in LMICs and how this differs across disciplines and topics; and
- A new framework of enablers for impactful international development research, and mechanisms for supporting them.

The report is structured in five sections. The first section provides a brief overview of the context surrounding UK international development research funding and the background of REF. The second section outlines our methodology, including sampling, data collection, and analytical frameworks. The third section presents the results of the portfolio analysis, including mapping distributions in different categories. The fourth section highlights the mapping results on the types of impact and research enablers within the sample. The fifth section provides an in-depth analysis of the 'key ingredients' that support research impact, including a new framework of enablers for impactful development research.

1. Setting the scene

1.1 The UK international development landscape

In 2015, the International Development Act¹ outlined the UK government's commitment to allocate 0.7% of Gross National Income (GNI) to ODA. Concurrently, a stronger role for scientific research was outlined within the 2015 Aid Strategy, leading to increased ODA funding for Research and Development (R&D): from under £500 million in 2015 to over £1.2 billion in 2021. As of 2015, ODA research spending was also distributed across more government departments than before. The creation of large ODA research funds, namely the [Newton Fund](#) and the [Global Challenges Research Fund \(GCRF\)](#), allowed researchers in the UK to collaborate with partners in LMICs to jointly tackle pressing global challenges in areas such as health, food security and climate change².

In more recent years, the UK aid landscape has undergone significant changes. In September 2020, a merger between the Department for International Development (DFID) and the Foreign and Commonwealth Office (FCO) resulted in the creation of the Foreign, Commonwealth and Development Office (FCDO). Among UK departments, FCDO is currently the largest contributor of ODA funding for R&D³. In response to the adverse effects of the COVID-19 pandemic on the UK's public finances and economy, in 2021 the UK government reduced its ODA funding commitment from 0.7% to 0.5% of GNI. This equated to a reduction of around £4 billion. These cuts had a huge impact on UK ODA delivery around the world and reduced ODA research funding.

In 2021, the UK Government published an Integrated Review (IR) which set out the UK's overarching security and international strategy, combining defence, security, resilience, diplomacy, development and trade, and science and technology policy⁴. The IR articulated the UK's ambition to be 'a science and technology superpower by 2030'. The publication of the IR was complemented by a new International Development Strategy (IDS) in 2022. The IDS outlined the priorities within the UK government's development agenda and the overarching goal to support investment in "what works" and champion scientific and technological innovations to support national development priorities. In 2023, the discontinuation of GCRF and the Newton Fund was announced, and a new International Science Partnerships Fund (ISPF) was launched. The ISPF, led by the Department for Science, Innovation and Technology (DSIT), combines non-ODA and ODA funding to support international research partnerships⁵. The broader approach to international partnerships described within the ISPF consolidates and aligns with the vision outlined in the IDS.

Beyond the UK's borders, specific events and new actors have significantly changed the global development landscape in the past decade. The COVID-19 pandemic and the devastating consequences of climate change have highlighted the need for global cooperation and collective action (Calleja et. al, 2022). However, we have also witnessed a decline in multilateralism and increasing national polarisation, which alongside economic crises has amplified global inequalities (Sidik, 2022). New actors such as philanthropic organisations, businesses, and community-based organisations are challenging dominant development narratives and the North-South binaries on which they are built, creating a more diverse, but complex and uncertain, landscape.

1 See International Development Act 2015 c.12 (House of Commons, 2015).

2 See UKCDR evaluation synthesis report on lessons learned from GCRF and Newton fund (UKCDR, 2023).

3 See Statistics on International Development: Provisional UK Aid Spend 2022 (UK National Statistics, 2023).

4 This was refreshed in March 2023. See HM Government (2023).

5 Announcements are yet to be made on the ODA component of ISPF.

Within the context of reduced UK ODA spending, increased relevance of non-ODA funding, a continued commitment to research in the IDS and a more complex global environment, it is important to understand how research can achieve the greatest impact on development outcomes. This report uses the REF2021 database of impact case studies to explore the landscape of UK international development research impact and identify key enablers to amplify it.

1.2 REF as an opportunity to learn about development impact

REF2021 Main panels

● Panel A	Medicine, health and life sciences
● Panel B	Physical sciences, engineering and mathematics
● Panel C	Social sciences
● Panel D	Arts and humanities

REF is a national peer-review assessment of the quality of research undertaken by UK Higher Education Institutions (HEIs). REF evaluates research outputs, impact and environment via four main panels (see box) and 34 subpanels linked to subject-based Units of Assessment (UoA). It is the largest national systematic evaluation of research in the world. REF aims to 'secure the continuation of a world-class, dynamic and responsive research base across the full academic spectrum within UK higher education'⁶. REF informs the accountability of public investment in research, the production of value for money evidence, the establishment of reputational metrics, and quality-related research funding allocations.

In their submissions, HEIs present case studies which demonstrate meaningful non-academic research impact over a 7-year period⁷. For REF2021, this is impact that occurred between 1 August 2013 and 31 December 2020⁸. A peer-review panel assessed the submitted case studies in terms of their reach and the significance of their impact. REF2021 impact case studies focus on the societal ('non-academic') benefits of research, rather than on academic outcomes such as publications and citation data.

REF2021 defines impact as 'effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia'⁹. **This focus on impact beyond academia makes the REF impact case studies dataset a unique resource to investigate the nature and scale of development impact achieved by research, allowing us to look at the societal benefit of UK research to development outcomes in LMICs and the global community.**

6 See general information [about REF](#) on their website.

7 The case studies contain five sections: i) summary of impact, ii) description of the underpinning research, iii) references to that research, iv) details of the impact, and v) sources to corroborate the impact.

8 This period covers the increased investment in ODA research from 2015 but it is unlikely that REF2021 will capture the full impact of these investments given the longer timeframes for achieving research impact.

9 For details on REF2021 definitions and submissions see [impact case study database FAQs](#).

2. Methodology

This section describes the sampling approach, analytical frameworks and caveats that underpin the portfolio analysis and case study deep dive on research enablers included in this report.

The methodology was designed with feedback from a subject-expert group, which brought together 20 experts on research assessment and impact. The group included representatives from UK funders and research institutions, REF panel members, and subject experts from LMICs.

2.1 Data sources and sampling

Applying our own definition of international development research to the REF2021 impact case study database, UKCDR created a new database of development research case studies. Tables 1 and 2 below describe the original data sources and sampling process for each workflow.

Table 1 Portfolio analysis approach

Portfolio analysis	
Data Source	Process
REF impact case study database ¹⁰ (N=6361)	<p>Two stage sampling approach to identify international development research case studies:</p> <p>Stage 1: initial inclusion criteria, reference to names of LMICs and/or regions¹¹ in the 'location' or 'summary of impact' sections.</p> <p>Stage 2: two-step validation test to remove false positives¹²:</p> <ol style="list-style-type: none"> 1. assessment of impact in LMIC/on global development process; 2. alignment with at least one SDG¹³. <p>Final sample of 891 international development research impact case studies.</p>

Table 2 Case study deep dive approach

Case study deep dive	
Data Source	Process
Sample of international development research impact case studies (N=891)	<p>We shortlisted case studies for the deep dive using the following criteria:</p> <ul style="list-style-type: none"> ● Presence of 5 or more type of impact sub-categories – see Table 5; ● Presence of 5 or more research enabler sub-categories – see Table 6; ● High/direct involvement of end-users in research. <p>This process identified 23 case studies which were narrowed down to 10, ensuring cross panel and geographical representation.</p> <p>Final sample of 10 impact case studies for deep dive.</p>
Interviews with research teams	<p>UK based principal investigators (PIs) of the 10 deep dive case studies were identified through online research. Each PI was approached to ascertain interest in the project and to enable connections to LMIC partners (academic and non-academic).</p> <p>10 interviews were conducted with UK PIs and LMIC partners.</p>
Validation and learning workshop	<p>A virtual workshop brought together UK and LMIC academics, subject-experts, research managers and research users, identified through the case study deep dive.</p> <p>20 participants engaged through a virtual workshop.</p>

¹⁰ Open access database available in [Impact database: Results and submissions REF 2021](#).

¹¹ A country's income status as determined by the [OECD DAC list](#), and regions as determined by [UN stats](#).

¹² We removed case studies: 1) which mentioned LMICs but did not have an impact in LMICs or on global development processes; 2) that focused on HIC impact and only registered a tangential LMIC impact (e.g., downloads of open access outputs); (3) that were not aligned with any of the SDGs.

¹³ While we acknowledge that most projects have connections with several SDGs, for analytical purposes we identified one primary SDG, excluding SDG 1 and SDG 17 (For details on the SDG analysis approach see Annex 1).

2.2 Data analysis

UKCDR initially carried out a pilot analysis on a sample within the sample (50 case studies) before conducting the portfolio analysis. Two analysts read each case study, coding against the areas of analysis below, with steps taken to establish consistency in coding. All 891 case studies were then distributed amongst the two analysts to read, analyse, and code in the following areas: **SDG alignment, Impact location, Type of partners, Type of LMIC research user, Funding source, Type of impact, and Research enabler**. A detailed description of the approach for each category is available in Annex 1.

2.3 Analytical frameworks

Non-academic research impact

Contribution of research that results in real-life political, economic, social, health or environmental effects.

Our analysis is based on two frameworks: **type of impact** and **research enablers**. Section 4 includes a full description of the categories and subcategories of both frameworks.

The **type of impact framework** is based on existing literature on non-academic research impact (see box) from the Institute of Development Studies (IDS) (Georgalakis & Rose, 2021), the Overseas Development Institute (ODI) (Tilley, Ball, & Cassidy, 2018), and UK Research and Innovation (UKRI) guidelines¹⁴. The type of impact framework includes four main categories: **Conceptual; Instrumental; Learning and development; and Networks and connectivity**.

The **research enablers framework** draws from UKCDR's previous work on factors that support sustainable and impactful international development research. The initial framework was used to understand the connection between the way in which development research is conducted and the type of impact achieved. This framework included four main categories: **Safeguarding; Equitable partnerships; Research capacity strengthening; and Transdisciplinarity**.

2.4 Limitations and caveats

There are four main limitations to this work. Any interpretation of the analysis presented in this report should account for these limitations.

Scope of sample: *the case studies submitted to REF are only a sample of UK research.*

Therefore, they do not account for the whole body of development-oriented research taking place in the UK. Additionally, REF data only captures information on research led by UK HEIs, meaning UK-funded international development research undertaken or led by either LMIC or other HIC institutions or non-academic institutions is not included.

Purpose of REF data: *the case studies were written for assessment purposes, rather than analysis.* The aim of REF impact case studies is to showcase excellent impact rather than learning about impact. As the REF results are used to rank HEIs and inform funding allocations, institutions carefully select and craft narratives around their submitted research projects. It is possible that certain types and levels of impact were not included to avoid any possible negative assessment (Manville, et al., 2021)

¹⁴ See Impact Toolkit [Impact toolkit for economic and social sciences – UKRI](#)

Data consistency and completeness: *the case studies were compiled in different ways by each institution.* They include different levels of detail about the research process and are inconsistently completed in non-essential fields such as: impact location, funding source and formal partners (see more details in Annex 1). Data availability limitations, and challenges with automating data cleaning and extracting standard inputs, mean any analysis can only be considered a partial picture.

Analysis approach: *the research team faced limitations to ensure consistency in the analysis and coding approach used to develop the findings.* While a pilot was conducted to improve consistency, a validation process for the entire sample was not feasible due to time and resource constraints. There are caveats around certain analysis areas (e.g., impacted audience, funder, and partner type) due to different understandings across the research team.

3. UK international development research impact landscape

This section summarises the results of the portfolio analysis of the international development REF2021 impact case studies sample (891 projects). We present the main findings of the sample distribution of the following elements:

- REF panels and Units of Assessment (UoA)¹⁵;
- thematic area as represented by the SDGs;
- location of impact;
- type of formal partners;
- type of research users, and
- funding source.

3.1 REF panels and Units of Assessment

International development research is happening across all disciplines in UK HEIs.

Once UKCDR identified the sample of the international development impact case studies, we analysed the distribution across REF panels and UoAs. In addition to the logical connection with UoA 7 on *Anthropology and Development Studies*, we found that all REF panels and UoAs showcased examples of international development research. This includes disciplines not traditionally linked to development issues such as sports, theology, maths, and physics. **This highlights that research impact in both social and natural sciences contributes to achieving development outcomes.**

Despite all panels and UoAs being represented in the sample, there is considerable variation among them. As illustrated in Figures 1 and 2, almost half of the development research sample (48%) is linked to *Social Sciences* (Panel C), indicating a strong focus on addressing development issues within these UoAs. In fact, six of the top ten UoAs with the highest number of international development research impact case studies are part of Panel C¹⁵.

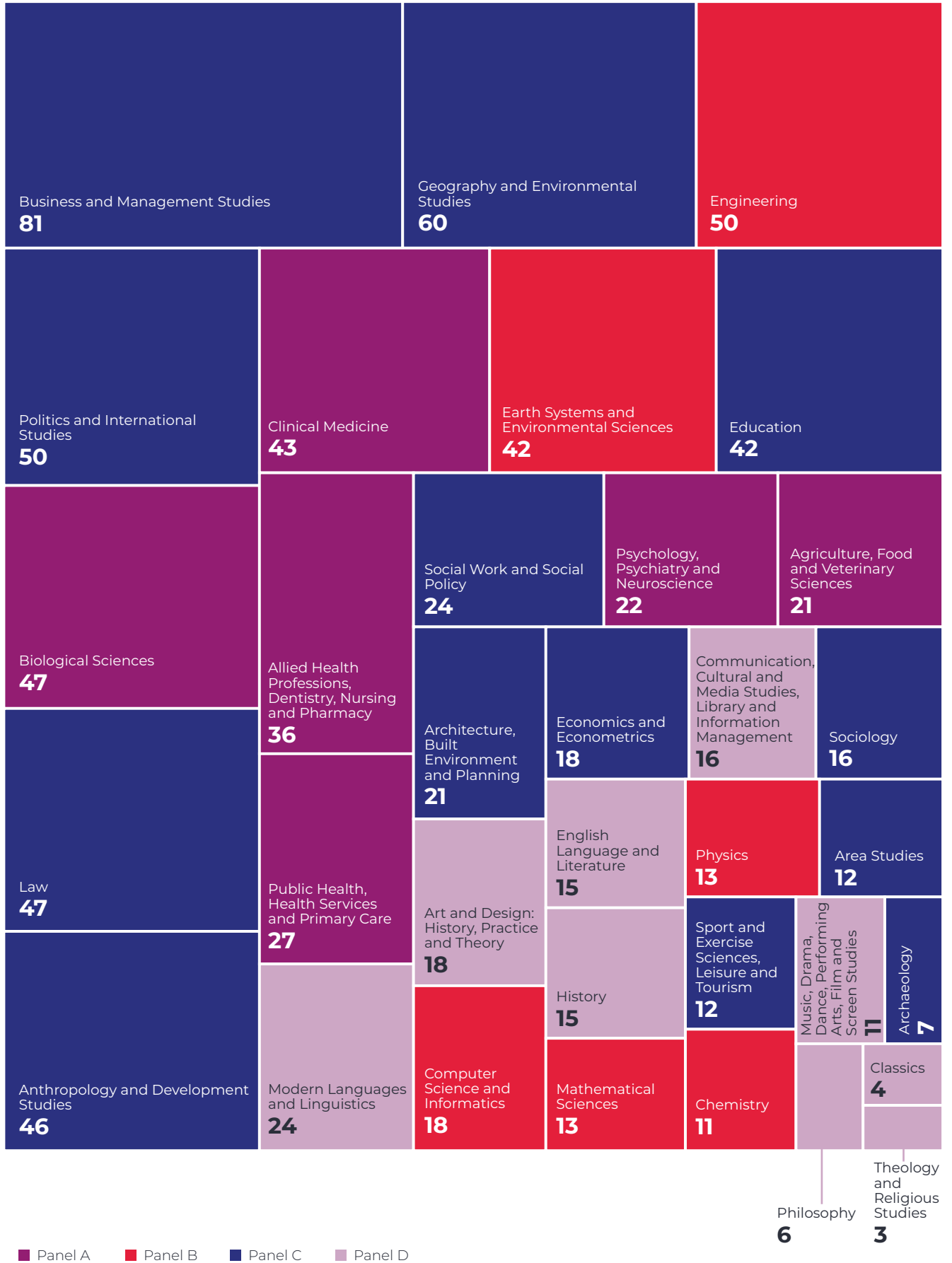
Panels A and B represent 22% and 16% of the sample. While Panel D holds 14% of the sample, there were no UoAs from Panel D in the top ten list. See Annex 2 for distribution across UoAs.

¹⁵ Panel C has the largest amount of UoAs in REF2021 (12 of the total 34 UoAs).

Figure 1 Top 10 UoAs with largest number of international development research case studies

REF Unit of Assessment	REF 2021 Panel			
	A Medicine, health & life sciences	B Physical sciences, engineering & mathematics	C Social Sciences	D Arts & Humanities
1. Business and Management Studies			■	
2. Geography and Environmental Studies			■	
3. Engineering		■		
4. Politics and International Studies			■	
5. Biological Sciences	■			
6. Law			■	
7. Anthropology and Development Studies			■	
8. Clinical Medicine	■			
9. Earth Systems and Environmental Sciences		■		
10. Education			■	

Figure 2 Distribution of international development research sample across REF2021 UoAs



3.2 SDG and thematic focus

UK international development research has a strong focus on wellbeing and peacebuilding topics.

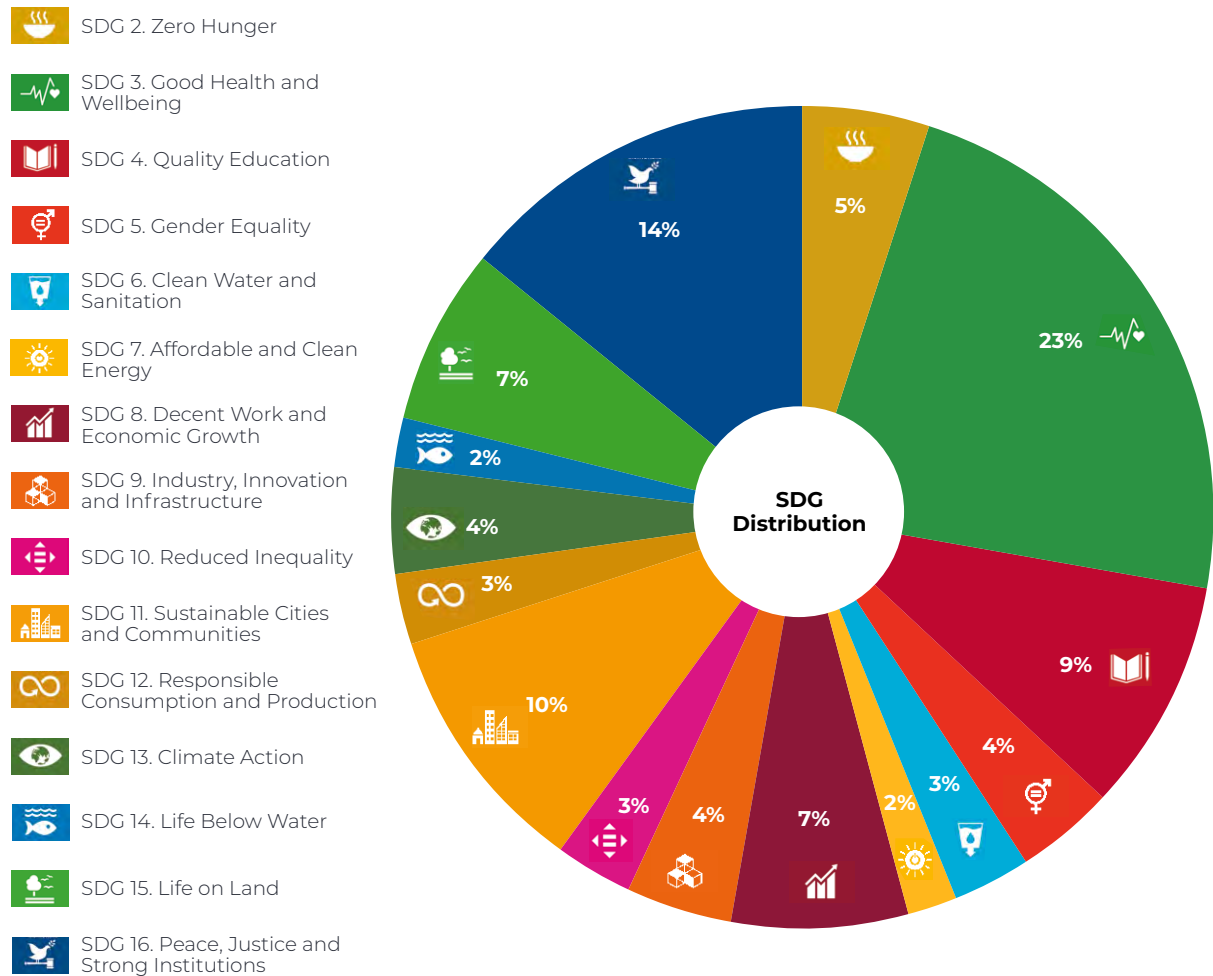
As with distribution across REF panels and UoAs, the distribution across SDGs encompasses all 17 goals. While we acknowledge that most projects have connections with several SDGs, for analytical purposes we identified and coded each case study against one primary SDG. SDG 1 and SDG 17 were excluded due to their crosscutting nature (see Annex 1 for methodology details).

As shown in Figure 3, there is significant variation among SDGs. The sample is most commonly oriented to *SDG 3 Good Health and Wellbeing* (23%), highlighting the relevance of this topic across UK HEI research. However, Panel A (*Medicine, Health and Life Sciences*) has the second largest number of case studies in the development research sample (Fig 1). This is explained by health-related research extending to other UoAs, such as: Mathematics for statistical models to improve disease management, Engineering to develop cellular robotic nanomanipulation, and Modern Languages to shift cultural understandings of cancer. **Contributions from different UoAs reinforce the case for a broad and holistic view of development research, highlighting the value of tackling development challenges from different disciplinary perspectives.**

Considerably below *Health and Wellbeing* is *SDG 16 Peace, Justice and Strong Institutions* (14%). Case studies associated with this SDG include research on topics such as: good governance, peace and reconciliation, citizen participation, prevention of political violence, defence of human rights, and targeting corruption.

The data highlights some gaps in the thematic focus of UK international development research within REF case studies (e.g., *SDG 6 Clean Water and Sanitation*, or *SDG 14 Life Below Water*). However, it is important to recognise that some thematic areas could be found across multiple SDGs. For example, the thematic area of 'climate' corresponds to SDGs 6, 7, 11, 12 and 13, equating to 21% of the sample. **The difference between (a) the distribution of the sample across panels and UoAs and (b) the SDG distribution highlights how different disciplines contribute to a diverse range of thematic topics.**

Figure 3 Distribution of REF2021 international development research case studies across SDGs



3.3 Impact location

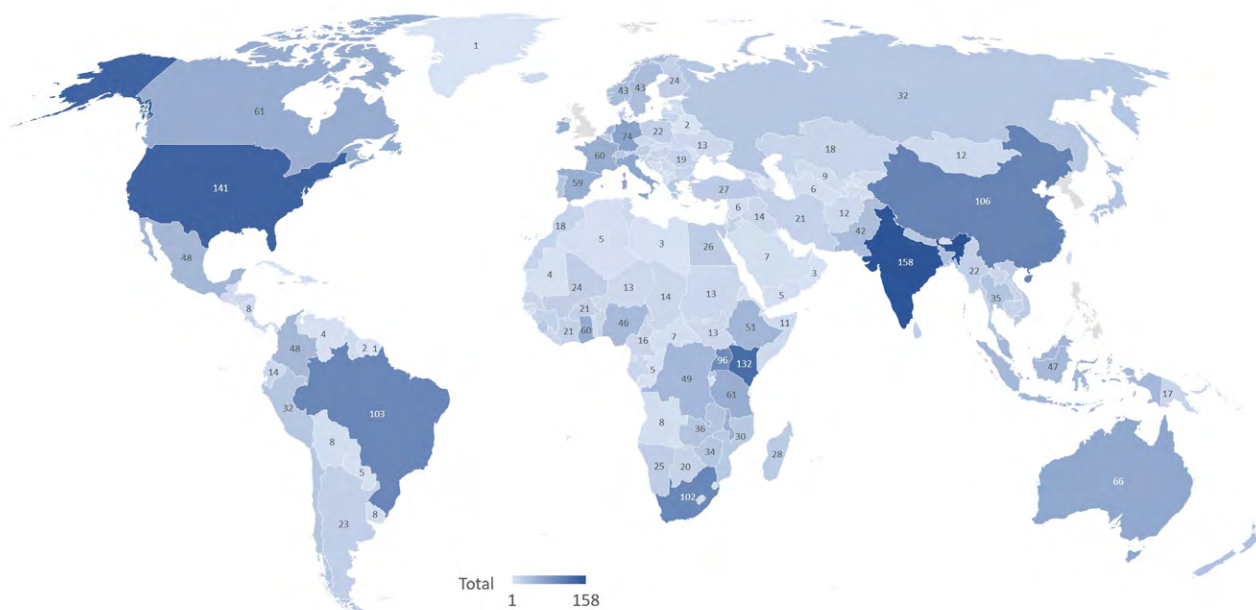
UK HEI research contributed to development impact across the globe.

Analysis of the impact location within the case studies sample shows that international development research in UK HEIs has had impact in almost every country around the world. **While our sampling approach ensured all case studies had impact in LMICs and/or global development processes, it is interesting that half the sample had an impact in both HICs and LMICs.** In some cases, this is due to a research agenda addressing development challenges shared by multiple countries. In other cases, it is due to research results having cascading effects in other geographical locations.

Figure 4 illustrates the geographical reach of the impact across the globe. The LMICs with the highest number of case studies are India (18%), Kenya (15%), Brazil (12%), South Africa and Uganda (each with 11%), and Tanzania, Ghana and Malawi (each with 7%). The HICs with the highest number of case studies are the UK (45%), USA (16%), Germany (8%), Italy (8%), and Australia (7%)¹⁶. The findings on impact location highlight both the concentration of development research in a few LMICs, and a large body of research having impact across HICs and LMICs.

¹⁶ The completion of location data in REF impact case studies was inconsistent – see methodology in annex 1 for more detail on the data cleaning and validation process.

Figure 4 Geographical distribution of REF 2021 international development research impact¹⁷



Apart from country-specific impact, we identified that 12% of the case studies registered global impact. These include three types of case studies which contributed to global processes and/or audiences as outlined in the box below:

Global impact approach	REF2021 case study example
Changes in international organisations	University College London (UCL) research on tuberculosis medical care led to a change in guidelines from the World Health Organization (WHO). Researchers revealed that Video Observed Therapy (VOT) —wherein tuberculosis patients recording themselves administering treatment— is more effective and affordable than the previously recommended Directly Observed Therapy (DOT), whereby healthcare workers observe patients in-person while receiving medication.
Wide geographical reach of research uptake	University of St Andrews research, undertaken as part of the EU-LAC Museums project (a collaboration between partners across Europe, Latin America and the Caribbean), focused on the promotion of community museums. The research has achieved global online engagement through open access resources, including a multilingual website with a database of over 100 local community museums, a YouTube channel with video case studies, and a documentary on community museum women leaders.
Spill-over effect of a successful model adapted by multiple countries	University of Sussex research on key skills and abilities linked to good reading comprehension for primary school children led to changes in England’s curriculum assessments and the creation of new materials to support the teaching of reading comprehension. Building on the research findings and outputs, new training programmes have been developed and delivered in the UK, USA, Uruguay, Mexico, Spain, India, Pakistan, and Hong Kong.

¹⁷ The information captured was extracted from the location section of the case studies sample at the country level. This means, it does not include case studies listing regional bodies (such as the African Union), regions, or sub regions (such as Southeast Asia or Central America).

3.4 Type of partners

While academic partnerships remain central to international development research, non-academic actors play an important role too.

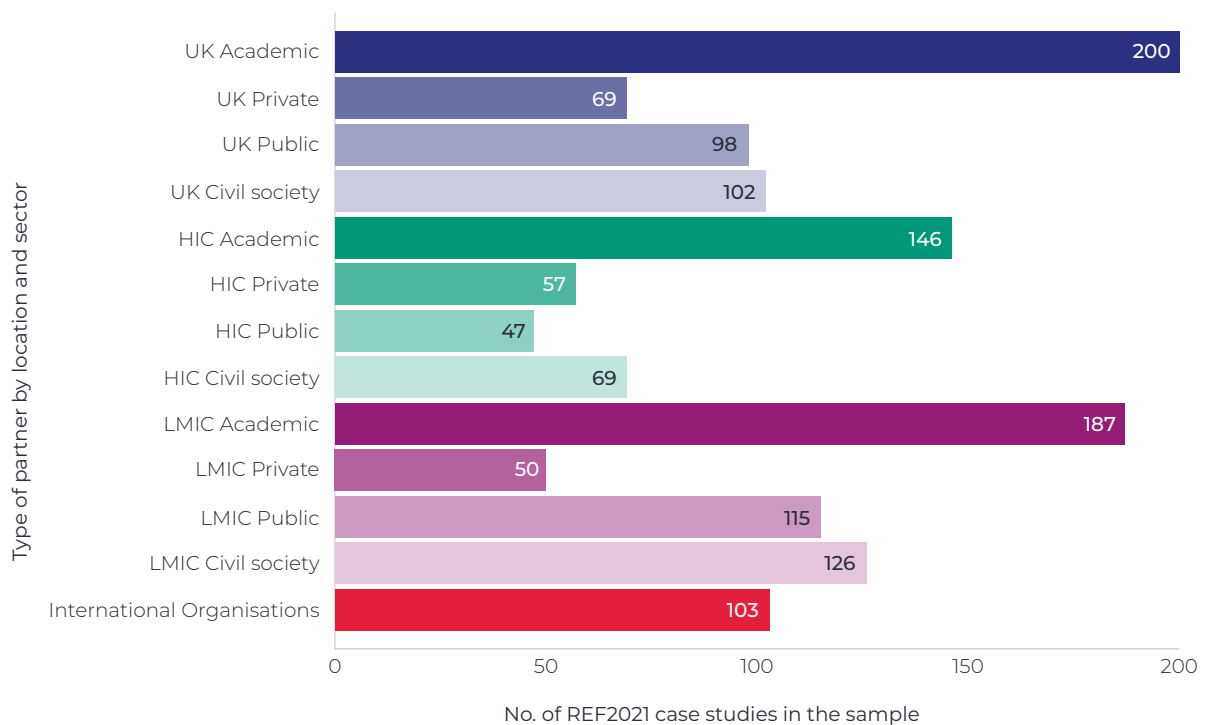
Partnerships are key to generating knowledge and increasing the impact of research. The types of formal partners identified in the impact case studies sample were analysed in terms of number of partners (single, multiple), location (HIC, LMIC, global organisation), and sector (academic, private, public, civil society). This analysis provides a snapshot of the range of partnerships that underpin international development research in UK HEIs.

Regarding the *number* of partners, there are significantly more case studies with multiple partners (76%) than with a single partner (24%)¹⁸. Regarding the *types* of partners, the most common partnerships for UK HEIs are with other academic institutions in the UK, HICs, and LMICs (39%) (see Figure 5). Beyond collaboration with academic institutions, non-academic partners (from private, public, and civil society sectors) also play an important role. 20% of case studies in the sample involved UK non-academic partners and 21% involved LMIC-based non-academic partners.

“Academics in the UK need to work with civil society organisations to understand what they need to know about their territories and to find ways in which academic research can help unlock new things. But that knowledge can only be unlocked if it is done in partnership with those organisations, and it’s not just about how that knowledge is created or discovered or generated, but it’s also then how it’s mobilised.”

UK-based Researcher

Figure 5 Number of REF2021 international development research-oriented case studies by type of partner



¹⁸ Based on the 58% of the sampled impact case studies that provided information on their formal partners. See section 2.4 for limitations on data consistency completeness.

3.5 Research users

Most international development research engages with multiple research users at different levels. This research has most impact on LMIC governments and international organisations.





















UKCDR identified research users for each case study. These are defined as actors that engaged with the research and benefited from the positive changes it engendered. This involves individuals, communities or organisations in LMICs, or global development systems¹⁹. **The most frequent users were LMIC governments (36%), including national and local governments, public and regulatory bodies, and courts of justice.** It also includes several projects that influenced LMIC regional bodies such as the African Union²⁰; the Organisation of African, Caribbean and Pacific States²¹; and the African Centre for Disease Control²².

The second most impacted research users were international organisations (21%), consisting mainly of UN bodies and agencies (e.g., WHO, UNICEF, ILO), and financial institutions (e.g., World Bank, Islamic Development Bank).

The third most impacted research users span two groups: civil society organisations and local communities (each with 16%). The former includes charities, NGOs, advocacy groups, and think tanks. The latter is mainly comprised of specific communities or groups (e.g., community-based organisations). The least impacted group of users is the private sector (11%), which involves commercial businesses across all economic sectors. Figure 6 shows the frequency of impact on different research users across REF panels.

76% of the cases studies in the sample impacted two or more types of research users. This suggests that development research within the sample actively engages with different actors to address the complexity and interconnectedness of global development challenges.

Figure 6 Distribution of type of international development research users

REF2021 Panel					Research User
A Medicine, health and life sciences	B Physical sciences, engineering and mathematics	C Social sciences	D Arts and humanities		
 168	 99	 353	 77	LMIC public sector	
 31	 71	 100	 15	LMIC private sector	
 53	 31	 152	 66	LMIC civil society	
 56	 37	 142	 69	LMIC local communities	
 122	 45	 198	 33	International organisations	

19 Multiple research users could be selected for each case study.

20 Regional government organisation that promotes cooperation among 55 African member states.

21 Inter-regional government organisation that supports sustainable development and global economic integration of 79 member states from Africa, the Caribbean and the Pacific.

22 Specialized public health technical institution of the African Union.

3.6 Funding sources

Public sector funding is often combined with international organisations and UK philanthropy. There is limited involvement from the private sector.

Types of funding sources and examples:

UK public sector (including government departments and research councils and their delivery partners).

UK private sector (e.g., AstraZeneca, Tesco)

UK civil society/philanthropic (e.g., Leverhulme Trust, Nuffield Foundation).

International public sector (e.g., Research Council Norway, City of Melbourne Council).

International private sector (e.g., Sanofi Aventis, Google).

International civil society/philanthropic (e.g., Bill and Melinda Gates Foundation, World Wildlife Foundation).

International governmental organisations (e.g., World Bank, UN, WHO).

LMIC funding institutions (e.g., South African Department of Science and Innovation, Brazilian Agricultural Research Corporation).

European Union (including European Commission, European Research Council).

The funding sources of each impact case study with funding information available were categorised by type (see box above) and number (single, multiple). Figure 7 shows the distribution of types of funders within each REF panel²³. The categories shown are not exclusive as a single case study can be supported by multiple funders.




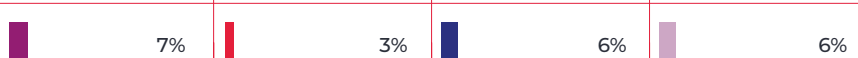




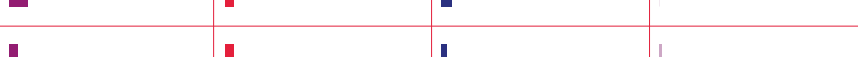
It is important to recognise the challenges pertaining to research funding information in REF impact case studies. First, there is limited data availability and completeness – 17% of case studies in the sample did not provide any funding information²⁴. Second, due to the timeframes of ‘underpinning research’ production (2000-2020) and impact assessment (2013-2020), it is likely that case studies benefitted from various funding sources, with only a select few sources being highlighted for the REF2021 submission. Third, part of UK research funding comes from government departments via research councils or delivery partners, which may have led to UK HEIs reporting the delivery partners instead of the original source of funding. For example, funding from FCDO is potentially undercounted as REF2021 case studies might have indicated a delivery partner as the funder (e.g., Economic and Social Research Council - ESRC) when the funding originated from FCDO. Therefore, it is crucial to understand that the information in this section is unlikely to represent the complete range of research funding sources in the sample of case studies.

23 For this mapping, funding from UK universities was coded as UK public funding. The CSO category includes charities, trusts and philanthropic organisations. The International categories include funding from HICs and global actors. Funding from LMIC source streams include a mix of public, private and/or academic resources.

24 While some case studies listed grant(s) number and value, this information was not available in the REF2021 impact case study downloadable dataset. Due to capacity limitations, we were not able to cross reference each case study and grant. Therefore, the analysis is not based on amounts of financial contributions, but on the available names of funding sources and programmes. Within our sample, 17% of the case studies did not provide any funding information.

Acknowledging these limitations, the data nonetheless indicates that REF2021 international development research was most commonly funded by UK public funding (38%). This funding mostly came from DSIT (previously known as BEIS), which contributed to 554 case studies, and FCDO, which funded 93 case studies²⁵. UK civil society organisations also made significant contributions (19%), with charitable foundations such as Wellcome and Leverhulme Trust at the top of the list. Major international funders include the EU (12%) and international civil society organisations (9%). Most case studies (68%) were supported by a mix of funders.

Figure 7 Distribution of types of funders by location and sector

REF2021 Panel					
A	B	C	D		Type of funder
Medicine, health and life sciences	Physical sciences, engineering and mathematics	Social sciences	Arts and humanities		
 32% 43% 46% 51%					UK Public sector
 3% 4% 3% 0%					UK Private sector
 22% 15% 15% 24%					UK Civil society / Philanthropy
 7% 3% 6% 6%					International public sector
 5% 8% 3% 3%					International private sector
 12% 4% 8% 6%					International civil society / Philanthropy
 10% 16% 13% 9%					European Union
 7% 3% 4% 0%					International organisations
 3% 3% 2% 1%					LMIC organisations

UKCDR identified 614 individual funders that provided funding to the case studies in the sample²⁶, 79% of which contributed to a single case study. Only 10 funders (2%) supported more than 50 case studies. See Table 3 for details.

25 For this analysis, projects funded by DFID and FCO were tagged as part of FCDO. Similarly, the DSIT category includes funding from BEIS, UKRI and the Scottish Research Council. The DHSC category includes projects funded by the National Institute for Health and Care Research (NIHR). Projects funded by multiple departments were tagged on each category.

26 Data cleaning accounted for different spellings and use of abbreviations for UK and global institutions. Limited capacity prevented same data cleaning process for foreign institutions, particularly in other languages.

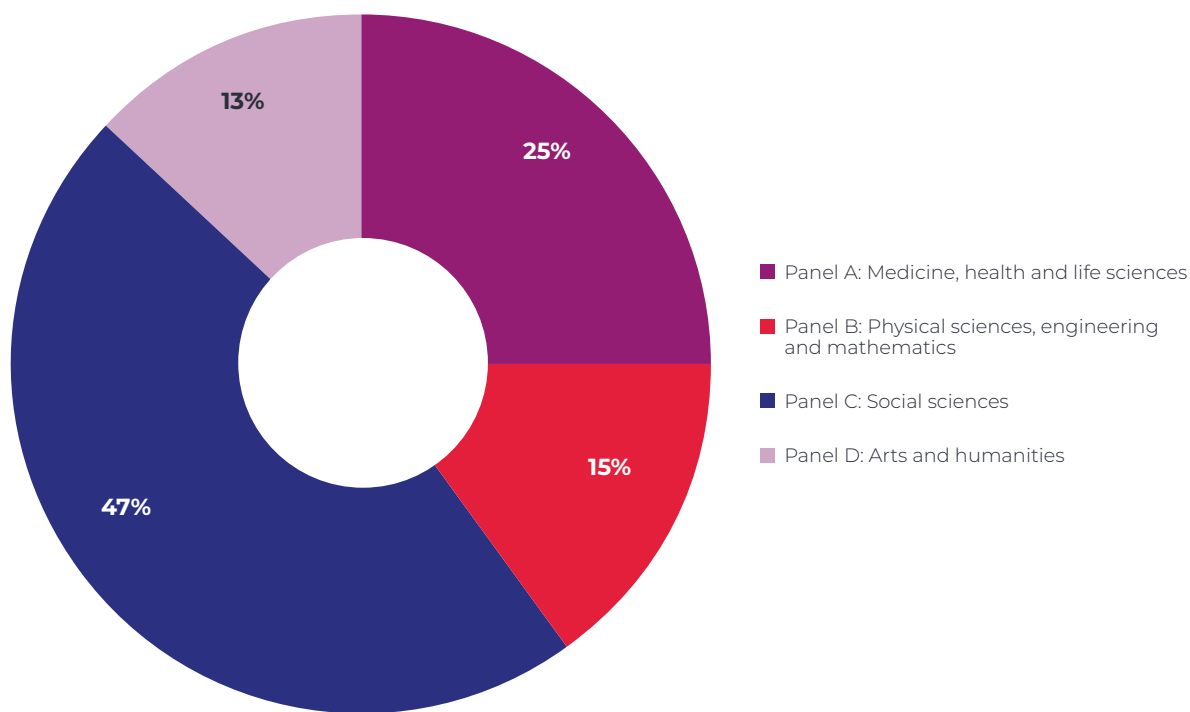
Table 3 Top UK and international funders of REF2021 development research by number of funded case studies²⁷

No.	Funder	No. funded case studies
1	Economic and Social Research Council (ESRC)	173
2	European Commission	167
3	Foreign, Commonwealth & Development Office (FCDO)	93
4	Arts and Humanities Research Council (AHRC)	83
5	Engineering and Physical Sciences Research Council (EPSRC)	71
5	Natural Environment Research Council (NERC)	71
6	British Academy	62
7	Wellcome	61
8	Leverhulme Trust	57
9	Medical Research Council (MRC)	52
10	British Council	49
11	Department of Health and Social Care (DHSC)	44
12	Bill & Melinda Gates Foundation	42
13	Biotechnology and Biological Sciences Research Council (BBSRC)	38
14	Innovate UK	25
14	World Health Organization (WHO)	25
15	Department for Environment, Food & Rural Affairs (DEFRA)	24
16	Royal Society	22
17	UK Research and Innovation (UKRI)	14
18	Scottish Funding Council	11
19	Research England	10
19	Science and Technology Facilities Council (STFC)	10
19	World Bank	10
20	Royal Academy of Engineering	9
21	UNICEF	8
21	United States Agency for International Development (USAID)	8
22	Department for Business, Energy & Industrial Strategy (BEIS)	7
22	National Geographic Society	7
23	European and Developing Countries Clinical Trials Partnership (EDCTP)	6
23	United States National Institutes of Health (NIH)	6

²⁷ Data on research funders varies across case studies. Some registered the overall funder (e.g., BEIS), others the delivery partner (e.g., MRC). Similarly, some case studies acknowledged overall funding from UKRI, while others specified the research council.

International development research is primarily publicly funded involving a mixture of ODA and non-ODA.

Figure 8 Distribution of ODA-funded research across REF panels



UKCDR identified REF2021 UK ODA-funded case studies based on a comprehensive list of ODA-funded programmes and initiatives. Analysis from case studies with funding data in our sample showed that 37% of international development research was ODA-funded. This includes 42 projects that were only funded by ODA initiatives and 240 that received blended ODA and non-ODA funds. Considering data availability, these are most likely low estimates. The remaining 63% of the case studies received funding from multiple public, private and philanthropic non-ODA sources. Figure 8 displays the distribution of ODA funding across the four REF panels.

The REF2021 impact case study database does not specify ODA and non-ODA funded research. For this analysis ODA-funded research was identified by including case studies that mentioned DFID/FCDO as a funder alongside those that indicated major ODA-funded research programmes or initiatives (e.g., GCRF, the Newton Fund, Darwin Initiative, and NIHR Global Health).

4. International development research impact and its enablers

4.1 Research impact landscape

REF impact case studies achieve multiple forms of development impact but are most focused on instrumental changes to policy or practice.

REF assessment previously categorised case studies according to the six PESTLE dimensions: Political, Economic, Societal, Technological, Legal, and Environmental²⁸. For REF2021, Health and Cultural categories were added. To better examine development impact, UKCDR developed an analytical framework for impact that looks across these dimensions and focuses on the nuances of real-life change that research achieved. This impact framework is based on existing literature from IDS (Georgalakis & Rose, 2021), ODI (Tilley, Ball, & Cassidy, 2018), and UKRI guidelines²⁹.

The framework contains four categories of impact: **conceptual; instrumental; learning and development; and connectivity and networking**, and each of these categories contains sub-categories (see Table 4). Specific examples of case studies that evidence each category are described in Table 5. We analysed each case study against our impact framework. Multiple forms of impact could be selected for each case study.

Table 4 Type of impact framework

Impact type category	Subcategory and description
1. Conceptual Changes in ways of thinking, addressing, or debating around a specific topic.	1A Contributions to the understanding or raising awareness of an issue.
	1B Evidence of a shift in the dialogue or reframing a debate around an issue.
2. Instrumental Changes on policy and/or practices in government, business, professional academies, or civil society.	2A Influence the development of policy positions and/or decisions, shape policy agendas, or contribute to the formulation of evidence-informed policies.
	2B Influence the development of changes in practices and/or behaviours of real-life interventions through the adoption of evidence-based approaches in various sectors.
3. Learning and development³⁰ Strengthened capacities of LMIC end-users at different levels.	3A Changes in LMICs individual end-users' knowledge and/or skills at a personal or professional level to engage with research results and generate novel solutions.
	3B Strengthened capacities of LMIC organisations or systems to continue with the research or conduct similar work in the future.
4. Networks and connectivity New or strengthened formal partnerships or engagement that deepen the use or application of the research.	4A Establishment of new platforms or spaces that bring together people and/or organisations.
	4B Strengthening existing formal partnerships with civil society, practitioners, policymakers, or other relevant groups who work together towards a shared goal.
	4C Informal engagements with diverse groups to inform the research process or expand the reach of the evidence.

28 The PESTLE analysis is a mechanism that reviews multiple aspects of society. It is widely used in UK government policy documents.

29 See [Impact Toolkit for Economic and Social Sciences](#) – UKRI

30 Learning and development can be both a form of impact and an enabler of other forms of impact.

Table 5 Examples of types of impact in REF case study projects

Type of impact	REF2021 case study example
Conceptual impact	<p>Raising awareness of how discourse shapes political debates: transitional justice and the peace process in Colombia (Liverpool Hope University, UoA 19 – Politics and International Studies)</p> <p>To highlight the role of discourse in framing the Colombian peace process, the researchers developed a set of outreach activities. These included events and media engagements in the UK and France, which helped ensure that an international general audience gained awareness of conflict resolution, peacebuilding, and how language used by the media can shape the framing of conflicts. In Colombia, the research reframed the debate around the role of the media and land restitution in the peace process.</p>
Instrumental impact	<p>Protecting vultures across Asia and Europe (University of the Highlands and Islands, UoA 7 - Earth Systems and Environmental Sciences)</p> <p>Research found that vulture populations have declined due to the veterinary drug, Diclofenac. This led the Indian Health Ministry to issue a national ban on large vials of Diclofenac. The research also impacted the development of new policy positions in several EU states: all relevant states were asked by the European Commission to produce national mitigation plans and new guidance documents, including updated risk guidance information for vets to inform changes in practices.</p>
Learning and development impact	<p>Enhancing the lives of people with communication and profound intellectual disabilities, in under-served contexts (Manchester Metropolitan University, UoA 3 - Allied Health Professions, Dentistry, Nursing and Pharmacy)</p> <p>Research built capacity and trained professionals in African and Asian countries on supporting services for people with disabilities through programmes of Speech and Language Therapy (SLT). In Uganda, the training programme led to an increased number of practitioners delivering culturally appropriate support while working with people with communication disabilities. In Kenya, two graduates helped establish the national SLT Association and another two graduates who received mentoring now lead the degree programme and provide peer-mentorship to new graduates.</p>
Networks and connectivity impact	<p>African Print Activism: Making the work and heritage of African literary enterprises visible and sustainable (University of Bristol, UoA26 - Modern Languages and Linguistics)</p> <p>Non-profit and grassroots organisations, as well as individuals (literary activists, writers and practitioners), came together to explore the need for Africa-centred models of literary production. Researchers facilitated workshops for literary activists which have since helped strengthen the Arts Managers and Literary Activists multilingual network, which brought together 60 literary activists from over 15 African countries. These workshops were followed by new mentorship initiatives, literature events and online spaces to bring people together.</p>

Our results show that research within the international development case studies sample has impact across multiple categories: **75% of case studies included examples of at least two impact categories**, with 25% demonstrating only a single type of impact category.

Figure 9 shows the distribution of impact types in our sample. The largest variation is between conceptual and instrumental. Panel B has the lowest number of case studies associated with conceptual impact and Panel D has the highest. Panel D holds the lowest number of case studies associated with instrumental impact and Panel B the highest. Distribution of learning and development and connectivity and networking is relatively similar across panels.

The REF2021 assessment is not guided by any impact categories, hence HEIs are not encouraged to showcase a specific impact type. However, evidence suggests that during the research project submissions for REF2021, UK HEIs placed a high value on research that demonstrated impacts on policy and practice. **Most (89%) case studies in the sample had a connection with instrumental impact on policy and practice. Most case studies without any instrumental impact are part of Panel D.** Instrumental impact has nuances in reach, degree of influence and domain of outcome (see box below).

Examples of the different scopes of impact on policy and practice

Reach (*local, national, regional, international*)

Degree of influence (*advise, inform, adopt, implement*)

Domain of outcome (*policy reforms, judicial decisions, regulatory guidelines, sector growth*)

It is possible that during the submission process UK HEIs privileged research projects with clear policy and practice impacts as they are deemed to be most valued by funders, or that these impacts could be more clearly described and evidenced through links to specific policy statements or guidelines. To understand the true societal impact of a policy or practice shift, evidence is needed beyond the existence of a policy statement or change in practice to that of the effectiveness of a specific policy or practice change.

UK HEIs were less likely to profile networking and connectivity impacts in their REF2021 submissions. Only 14% of case studies evidenced this form of impact in their impact narrative (e.g., developing informal networks or strengthening existing partnerships). This may suggest that changes in relationships can either be implicit and challenging to document or can happen as a result of a combination of factors and influences, as opposed to a direct effect of research itself. Once again, considering REF2021's purpose of assessing UK HEIs research it may be that UK HEIs deemed them more difficult and/or less valuable to report.

Within the sample of 891 international development research case studies, we identified 2,383 impacts across the nine sub-categories in our impact framework (Figure 9). The five sub-categories that scored the highest are: Informing or shaping practices or behaviours (28%); Informing or shaping policy positions (18%); Strengthening individual capacities (12%); Raising awareness on a topic (12%); and Organisational or system-level learning and development (11%).

Figure 9 Distribution of types of impact across REF2021 panels

REF2021 Panel				
Impact category (% within each panel) Impact subcategory (total frequency in sample)	A Medicine, health and life sciences	B Physical sciences, engineering and mathematics	C Social sciences	D Arts and humanities
Conceptual impact	18%	13%	20%	29%
Changes in dialogues or debates	43	33	132	70
Raising awareness	30	6	79	25
Instrumental impact	49%	48%	41%	27%
Informing/shaping policy positions	114	43	231	38
Informing/shaping practices or behaviours	170	124	299	63
Learning & Development impact	20%	23%	23%	24%
Organisations or systems	55	41	141	54
Individual capacities	41	43	128	39
Connectivity & Networking impact	13%	16%	16%	20%
Strengthening existing formal partnerships	28	17	75	27
Strong informal engagements	15	8	46	21
Building new formal partnerships	11	21	51	21

A closer look at UoAs shows that some of them have much more varied forms of impact than others. For example, *UoA25 - Area Studies* registered up to 41 sub-categories of impact across the 12 case studies included in our sample. Conversely, while *UoA12 - Engineering* has the third highest number of case studies in our sample (50 case studies), it holds less variation of impact (100 sub-categories). As seen in the box below, the UoAs with less varied sub-categories of impact all belong to Panel B (*Physical sciences, engineering and mathematics*). This variation across UoAs could be related to the way in which different disciplines describe the nature of their impact, and to challenges collecting evidence of impact to meet REF2021 requirements. For details on UoA distribution see Annex 2.

UoAs with more varied sub-categories of impact

- Area Studies
- History
- Earth Systems and environmental sciences

UoAs with less varied sub-categories of impact

- Engineering
- Computer Science and Informatics
- Mathematical Sciences

Overall, our results demonstrate that international development research provides a diverse range of impact. It is important to note that research projects can achieve all types of impact during their lifetime and well beyond the end of a research grant, and not in any predetermined scale or order. This reinforces the importance of understanding not only the characteristics of impact, but also the mechanisms and approaches that contribute to recognising, achieving, and documenting impact. The next section explores the enablers or drivers of research impact on development outcomes.

4.2 Research enablers landscape

To understand the connection between the way in which international development research is conducted and the impact achieved, UKCDR developed an initial analytical framework of research enablers for impact. The framework draws on UKCDR's previous work on the factors that support sustainable and impactful outcomes in international development research (ESSENCE and UKCDR, 2022; UKCDR, 2020; UKCDR, 2022). Each case study in the sample was analysed against all categories and sub-categories (see Table 6).

Table 6 Initial research enablers framework

Research enabler category	Sub-category
Safeguarding Preventing and addressing any exploitation, abuse or harassment of research participants, communities, and staff.	1.1 Compliance
	1.2 Prevention
	1.3 Protection
	1.4 Transparency
Equitable partnerships Partnerships in which there is mutual participation, mutual trust and respect, mutual benefit and equal value placed on each partner's contribution at all stages of the research process.	2.1 Established networks
	2.2 Stakeholder participation
	2.3 Equity, diversity, inclusion
	2.4 Open science
	2.5 LMIC ownership
	2.6 Co-production
Research capacity strengthening Enhancing the ability and resources of individuals, institutions, or systems to undertake, analyse, validate, and/or communicate research efficiently, effectively and sustainably.	3.1 Individual level
	3.2 Research environment
	3.3 Research uptake
Transdisciplinarity³¹ Sharing of ideas, experiences and skills across different disciplines and stakeholders, including collaborative and participatory work with non-academic stakeholders, and engaging with local and diverse knowledge systems.	4.1 Interdisciplinarity ³²
	4.2 Policy engagement
	4.3 Industry engagement
	4.4 Civil society engagement
	4.5 Local community or practitioner engagement
	4.6 Local knowledge

³¹ Transdisciplinarity is often understood as research that addresses real-world problems (rather than pure academic questions) using collaborative and participatory approaches to work alongside non-academic stakeholders in order to achieve innovative and contextualised solutions (Lawrence, 2010).

³² This concept is defined as contributions from two or more scientists from different disciplines who combine their approaches (concepts, methods, principles) to address a common question and achieve a shared result (Gibbons, et al., 2012).

Although safeguarding is a category within our research enablers framework, we note that less than 1% of the sample mentioned safeguarding principles in their impact descriptions. The low presence of this research enabler in the sample could be explained by limited space in the REF2021 submissions documents, which may have prohibited mention of research ethics. As a result, safeguarding and its subcategories are not included in the figures in this section.

The results show that all panels have a similar proportion of research enabler categories, with transdisciplinarity playing a major role (see Figure 10). This category has a significantly higher frequency (48%) across the sample compared to research capacity strengthening (27%), and equitable partnerships (24%).

Figure 10 Breakdown of research enablers across REF panels

REF2021 Panel				
Research enabler category (% within each panel) Research enabler sub-category (total frequency in sample)	A Medicine, health and life sciences	B Physical sciences, engineering and mathematics	C Social sciences	D Arts and humanities
Equitable Partnerships	25%	23%	23%	29%
Established networks	11	4	18	6
Transdisciplinarity	18	16	55	22
Equity, diversity and inclusion	3	3	17	7
Open science	12	11	16	8
LMIC ownership	18	12	37	13
Co-production	28	23	74	31
Research Capacity Strengthening	33%	30%	25%	23%
Individual research capacity development	30	20	53	17
Research environment	52	40	98	22
Research uptake	44	27	76	24
Transdisciplinarity	42%	47%	52%	47%
Interdisciplinarity	10	8	33	16
Policy engagement	58	38	175	26
Industry engagement	18	51	59	4
Civil society engagement	28	17	96	40
Local community engagement	37	21	112	59
Local knowledge	4	3	19	17

The results also show some exceptional cases across UoAs (see Annex 2 for details on distribution of research enablers across REF UoAs):

- In *UoA 29-Classics*, 50% of the case studies are connected to equitable partnerships;
- In *UoA 5-Agriculture*, 44% of the case studies are connected to research capacity strengthening;
- In *UoA 24-Sports*, 72% of the case studies are connected to transdisciplinarity.

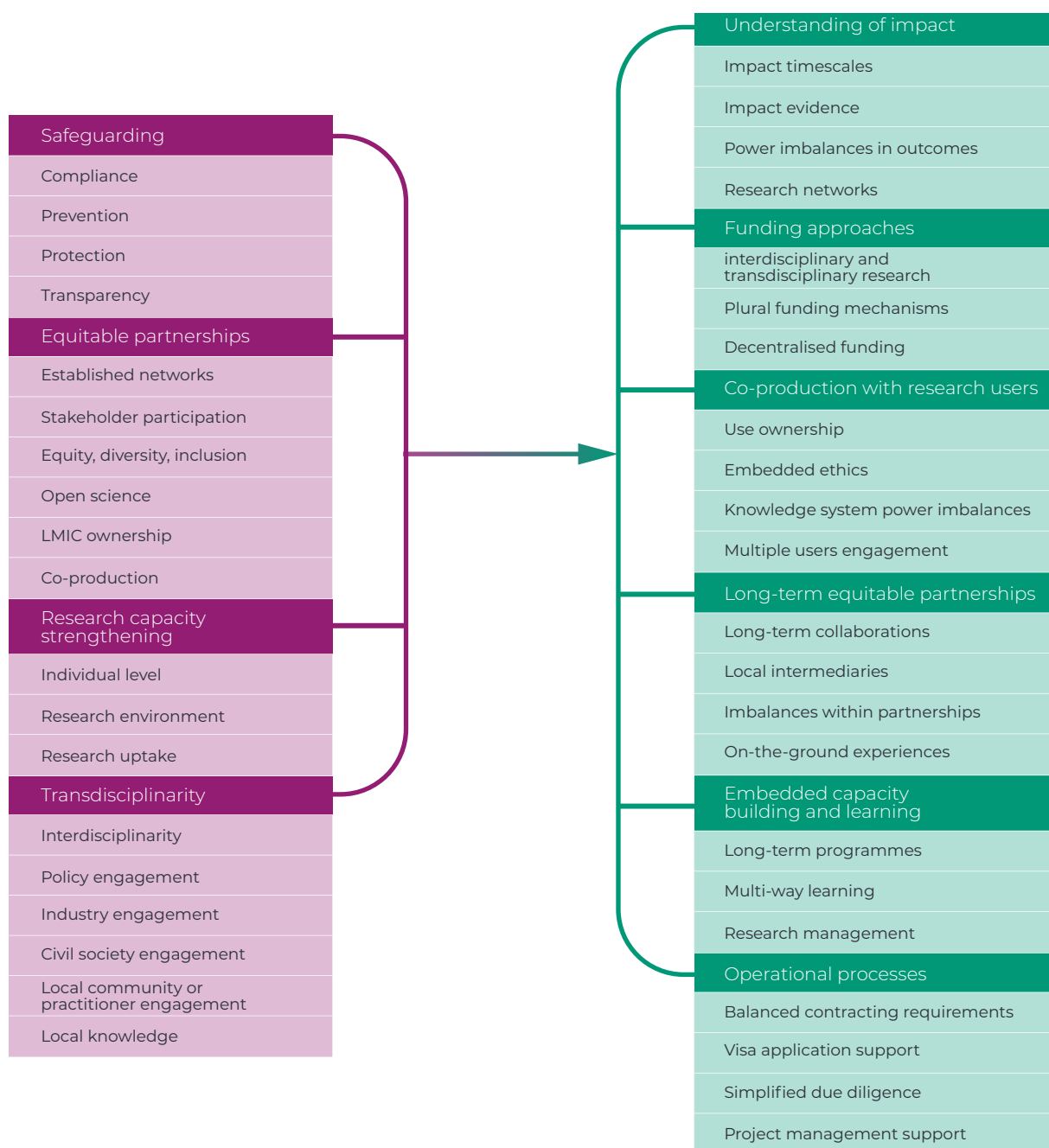
The high prevalence of transdisciplinarity highlighted by our mapping suggests that engagement with non-academic actors is important for impact across the sample, whether involving policymakers (297 case studies), local communities (229), civil society

organisations (181), or industry actors (132). Similarly, developing conditions for co-production (156 case studies) and research capacity strengthening at an individual (120) and environment level (212) are notable. In contrast, elements of LMIC ownership (80), local knowledge (43) and equity, diversity and inclusion (30) have a smaller representation in the sample.

When assessing the connection between type of impacts and research enablers, we note a few tensions. For example, there is a mismatch between the ‘connectivity and networks’ impact type and the ‘transdisciplinarity’ research enabler. While they both relate strongly to elements of engagement, collaboration, and partnership with a diverse group of relevant actors, the connectivity and networks type of impact scored the lowest and the transdisciplinarity research enabler the highest. This suggests that UK HEIs potentially over-emphasised reporting policy-related impacts and undervalued connectivity and networks as a form of impact in their REF2021 submissions.

UKCDR experienced some issues while identifying and coding impact enablers in our initial framework (e.g., little connection to safeguarding, missing research enabling elements). This experience informed our second workstream. Moving beyond the REF2021 impact case study written submissions, UKCDR undertook a case study deep dive, which resulted in an expanded framework of research enablers for development impact (see section 5).

Figure 11 The development process of UKCDR's new research enablers framework

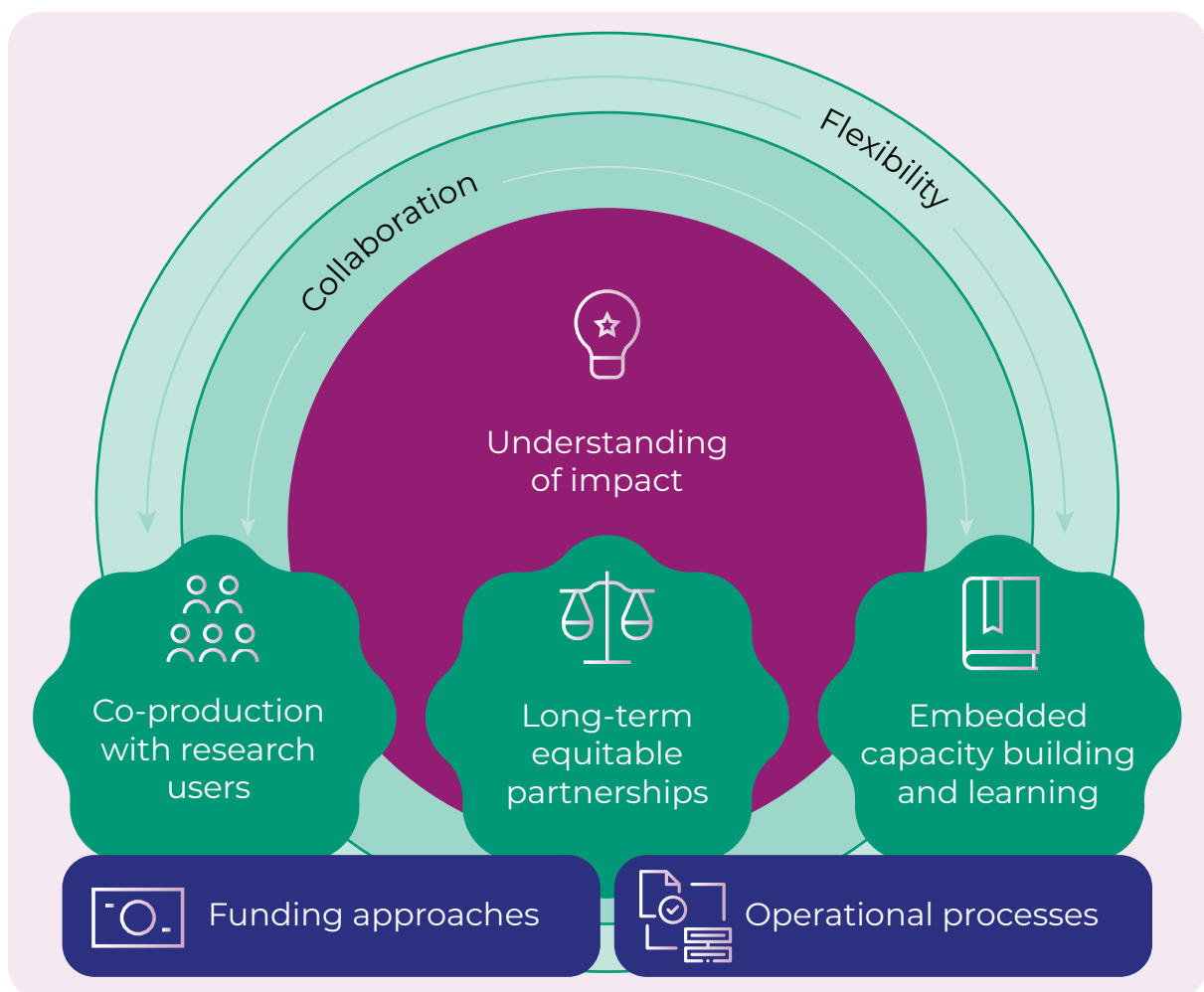


5. Lessons learned: Creating an enabling environment for research impact

Based on our initial framework of research enablers (see Table 6), we shortlisted 10 case studies and conducted interviews with their research teams³³. Through these stakeholder interviews, we explored the research process and identified key elements that enabled or hindered their pathway to impact, focusing on aspects not mentioned in their REF2021 submission. The interviews revealed a surprisingly diverse range of research enablers. Analysis of the interviews alongside a validation workshop led UKCDR to develop an expanded framework of research enablers for development impact (see Annex 1 for details on methodology).

This new framework has 6 dimensions that underpin the achievement of research impact on development outcomes (see Table 7). The framework is not a comprehensive list of all enabling factors, but collates lessons learned from our deep dive and insights shared during a validation workshop. We intend this framework to help funders, research institutions, and research teams to reflect on how they can create an enabling environment for development-oriented research impact.

Figure 12 Key elements that build an enabling environment for development research impact



³³ This included a UK-based researcher and at least one LMIC academic partner or research user.

Table 7 New research enablers framework

Enabling Dimension	Research impact enabler
 Understanding of impact	Recognise different timescales for achieving impact
	Recognise various forms of impact evidence
	Recognise the role of serendipity
	Address power imbalances in research outcomes
	Acknowledge the role of research networks in amplifying impact
 Funding approaches	Encourage challenge-led interdisciplinary and transdisciplinary research
	Value a plurality of funding mechanisms
	Encourage decentralised funding approaches
 Co-production with research users	Support research user involvement and ownership over research process and outputs
	Embed ethics around research funding and aims
	Address power imbalances in knowledge systems
	Engage with different research users at multiple levels
 Long-term equitable partnerships	Develop long-term academic collaborations
	Recognise the role of local intermediaries
	Address power imbalances within partnerships
 Embedded capacity building and learning	Acknowledge added value of relationships and lived experience
	Take a long-term programmatic approach
	Embed multi-way continuous learning processes across all partners and disciplines
 Operational processes	Focus on research management and support functions
	Balance contracting requirements with partners' capacities and on-the-ground realities
	Support visa applications to enable two-way knowledge exchange
	Simplify due diligence and procurement processes
	Support project management and communication tasks

5.1 Understanding of impact

How research impact is understood and valued shapes the pathways to achieving impact and the type of impact realised. The move towards non-academic impact exemplified by REF2021 has guided the research community to focus more on development outcomes. However, a narrow interpretation of development impact (e.g., policy changes) can create a misleading idea of simple and linear research-policy relations as the ultimate purpose of scientific research (Boswell & Smith, 2017).

Our analysis suggests that embedding a holistic and pluralistic understanding of impact in research funding and practice encourages research teams to acknowledge and achieve more complex and nuanced forms of real-life changes including those aimed at different:

- Geographical levels (local, national, regional and global);
- Scales (micro-impacts vs system-wide);

- Audiences (policymakers, practitioners, civil society);
- Timescales (short vs long-term);
- Systemic levels (institutional, individual);
- Types (conceptual, instrumental, learning and development, networks and connectivity).

A more holistic understanding of impact raises important questions about supply-driven approaches to impact (where funders, HEIs, or researchers anticipate specific types or levels of impact). Too restrictive an application of intended impact can hinder the potential of research to explore multiple impact pathways and build on emerging opportunities and respond to changes in context.

Recognise different timescales for achieving impact

Research impact and uptake are achieved throughout the research cycle. They can occur during the early stages (e.g., changes in self-perception among community members embracing new roles as citizen scientists), or after the publication and dissemination stages (e.g., spin-off businesses or social ventures inspired by the research findings). Impact can also be achieved beyond the end of a research grant through the cumulative impact of multiple funded research projects, or changes that can only be identified in the long-term. This enhances the case for funders and impact evaluations to consider different timescales for achieving impact. Embedded monitoring, evaluation, and learning can help different actors within the research ecosystem to identify impact, assess its effectiveness and amplify its effects at different stages.

“The most interesting part is that through research, we were able to stand together and tell our story, use our own voice to tell who we are. We also created a community and even reconciled with society around us. By being part of the project, we gained confidence, self-love, and love for one another. We healed.”

LMIC-based research user

Recognise various forms of impact evidence

Research teams are encouraged to gather evidence on the benefits arising from their research. However, while some types of evidence are concrete (e.g., new national regulation), others can be more elusive and difficult to capture (e.g., stronger local community bonds). It is crucial to recognise various forms of evidence and account for the resources needed to capture the contributions of research throughout the timeframe of a funding grant and beyond.

Recognise the role of serendipity

Achieving development outcomes is not a linear or normative process. Interviewees acknowledged that not all impacts were carefully planned and executed; some were achieved by being open and flexible to a continuous learning process, or through the resilience that emerged in response to unforeseen circumstances.

Serendipity can take different forms, from unplanned encounters with influential individuals to unexpected weather conditions or political events affecting planned activities. Being open and resilient to changes and embracing a failure-tolerant approach increases chances for funders and researchers to recognise and make the most of emerging opportunities.

“The best chance we got to learn about [national] health priorities was in the middle of a traffic jam in the back seat of a taxi. While talking with the district provincial health officer it became clear that our research priority should be the flooding.”

UK-based researcher

Address power imbalances in research outcomes

In interviews, stakeholders highlighted tensions between funders' expectations of high-quality research and partner institutions' interest in achieving development results in LMICs. Open conversations around expectations help determine impact priorities and pathways. Building a contextualised understanding of impact based on needs (informed by local perspectives) and tailoring the impact pathway helps research respond in the most relevant way, supporting the adoption and application of research findings. Anticipating and addressing power imbalances requires researchers to make the most of soft skills such as active listening, negotiation, and communication.

Acknowledge the role of research networks in amplifying impact

In interviews, stakeholders emphasised the importance of establishing long-term networks between academic and non-academic partners. This was identified as a key driver of research impact. Networks with a geographic or thematic focus can enable blended funding, foster dialogue between diverse perspectives, and bring together varied knowledge systems. Networks can help draw together diverse forms of evidence from different bodies of research.

Our analysis identified various approaches to building effective networks, ranging from pre-grant discussions on research priorities to using core funding to reach new partners after grants have been awarded. To maintain effectiveness, these networks require embedded capacity building and strong leadership that extend beyond individual projects and researchers. The effort, time, and resources required to engage and maintain relationships with key stakeholders and their role in the research process explain why building and maintaining networks and relational connections constitute valuable forms of impact, as shown in our impact framework (see Table 4).

“With these alliances and collaborations between different kinds of actors, there is a process where each one of them is co-producing knowledge as well as sharing knowledge between each other.”

UK-based researcher

5.2 Funding approaches

Diverse funding approaches and mechanisms are necessary to enable a more comprehensive understanding of impact. Long-term and challenge-led programmatic approaches were highlighted as important for creating an enabling environment for achieving multiple forms of impact. Examples cited by interviewees included flexibility in spending to adapt to changing research contexts and allowing enough time and resources for co-production.

Encourage challenge-led interdisciplinary and transdisciplinary research

Collaboration is necessary to address interconnected development issues through research. Challenge-led funding that aims to address real-life development issues promotes collaboration between academic and non-academic stakeholders, encouraging interdisciplinary and transdisciplinary research. GCRF is an example of a funding scheme that promoted connections between natural and social scientists, and encouraged links with policy, industry, and civil society to tackle development challenges in LMICs.

Furthermore, analysing and integrating knowledge from multiple disciplines and stakeholders is key to generating comprehensive and reliable evidence. Gathering and analysing evidence

across research projects enables researchers to identify patterns, draw robust conclusions, inform policy decisions, and fill gaps in knowledge, thus maximising the impact and effectiveness of development interventions.

Value a plurality of funding mechanisms

“I think the benefit of having different sources of funding was to allow us-and to be sort of encouraged-to make this as interdisciplinary as possible. We also had a couple of impact accelerator grants which was a little bit of money on top that helped us do specific add-ons in the project. This way the research question branched out by exploring different directions.”

UK-based researcher

Our data analysis suggests that an enabling environment for research impact can be achieved through various forms of funding, as listed below. As seen in the mapping analysis (see section 3.6), the current funding landscape of international development research involves multiple funders and portfolios. Interviewed stakeholders highlighted the benefits of having access to different funding opportunities at different stages. For example, by addressing multiple research topics, accessing different contributions (including financial, in-kind, and human resources), and capitalising on opportunities for building upon research findings in new directions. Similarly, bridging funds and small networking grants create opportunities to access larger funding sources by covering funding gaps and ensuring closer engagement and collaboration across partners.

- Multiple sources of funding (i.e., ODA, non-ODA, and blended);
- Different funders (e.g., public and private; HIC and LMIC);
- Long-term funding (e.g., programmatic 5-year+ grants);
- Bridging funds (e.g., impact and public engagement grants);
- Small, dedicated funds (e.g., visa and networking grants).

Encourage decentralised funding approaches

A transition towards more decentralised funding approaches requires distributing governance and supporting capacity building in LMIC partner institutions, particularly in research management. Such changes in funding relationships can help build equitable partnerships (ESSENCE and UKCDR, 2022). Possible strategies that funders and research institutions can adopt include:

- Greater involvement of LMIC-based researchers and institutions in designing funding approaches and making funding decisions to ensure relevance;
- Support for LMIC-led research proposals and direct funding to LMIC research institutions without the intermediation of HIC partners;
- Recognising the value of non-monetary resources from academic and non-academic partners (e.g., staff support, networking, arranging logistics).



5.3 Co-production with research users

Effective co-production for impact requires engaging research users from the outset as equal partners and working collaboratively to define research problems in alignment with LMIC development priorities and in response to local research needs. Embedding close collaboration

with those who will directly benefit from the research (e.g., policymakers, practitioners, civil society) – through, for example, participatory action research³⁴ – leads to more contextually relevant work, highlights the richness of different knowledge systems, and builds local ownership of the research process and outputs. The approach taken vis-a-vis co-production will be context-dependent; access to communities may be limited in some cases, or engagement with policy actors either not possible or not desirable.

“Through this research, we were regarded as legitimate stakeholders. That boosted our self-esteem and enabled us to be empowered to work in areas other than that research itself. We were very happy to be invited to brainstorming and planning sessions for proposal writing and reviewing funding. It was also very important that we were able to collaborate with other service users. We have come to broaden our sphere of influence.”

LMIC-based research user

Support research user involvement and ownership over research process and outputs

Embedding user involvement from the earliest stages can enhance research quality and impact. Interviewees highlighted the need to recognise sufficient resources and allocate enough time for co-production, which should be explicitly embedded in funding calls.

Involving research users in scoping and planning improves research relevance and viability and promotes higher and faster uptake (Oliver et al., 2015). This requires time and resources to identify and engage with LMIC partners and support joint scoping and planning activities. This is particularly important in consortium-building funding opportunities.

Similarly, co-production that extends to co-creation of outputs and knowledge translation contributes to research impact by supporting relevant and useful research outputs. Examples of approaches for tailoring knowledge translation of research outputs include:

- Avoid technical terminology;
- Incorporate local cultural characteristics and examples;
- Factor-in language translation;
- Consider usability for multiple audiences (e.g., audible formats).

Embed ethics around research funding and aims

Although not identified as a key enabler in the portfolio analysis (see section 3), interviewed stakeholders and workshop participants emphasised the importance of ethics in co-produced research with LMIC partners. Co-production is underpinned by safeguarding principles, such as transparency, accountability, and respect, and a care-based research ethics approach (Brannelly, 2018). It thus promotes principles of solidarity, humility, and curiosity. This requires clear and open conversations on the purpose of research projects, funding arrangements, and identifying and addressing any limitations to plan research co-production effectively and ethically. While funders and HEIs do account for safeguarding considerations, interviewees recognised a gap between, on one hand, ethics guidelines and reviews and, on the other, the reality of conducting research on-the-ground. They highlighted that ethical approaches are rarely monitored or assessed, which might have helped account for the very few mentions of safeguarding elements in the REF2021 case study sample.

³⁴ Research approach that involves active engagement and collaboration with a diverse and representative group of research users, who reflect on social issues that affect them directly and take actions that promote real social change.

Address power imbalances in knowledge systems

Research impact benefits from breaking down the barriers between academic and non-academic knowledge systems. An unequal relationship between these systems can lead to issues of extractive or dominating practices around ownership and intellectual property. Cultural appropriation or misinterpretation of indigenous knowledge can arise due to tensions about the validity and credibility of methods and worldviews, or lack of translation or equivalents in scientific terms.

As was confirmed in stakeholder interviews, this highlights the need to actively reflect on conscious and unconscious bias around hierarchical and paternalistic structures, and how this affects co-production with research partners. Guaranteeing continuous research user involvement in the research process and committing to open conversations around power while learning from each other can help address imbalances throughout the research cycle. Local intermediaries can help bridge the gap between academic and traditional knowledge systems.

Engage with different research users at multiple levels

Research impact is enhanced by engaging with a range of users at different levels. Collaborating with different types of research users (e.g., policymakers, practitioners, business leaders, local communities and civil society groups) brings together experiential and practical knowledge to inform research design and delivery, increasing the likelihood of high-impact outcomes.

Interviewees highlighted the effects of staff turnover within research user organisations for achieving impact. In some cases, changes (e.g., government elections) challenge the sustainability of partnerships and close collaboration. In others, people moving to new positions or organisations can create the buy-in of new stakeholders and thus expand existing networks.

“We engaged with a succession of Ministers of Health and Health District Secretaries. People move around in the system; they are there for two or three years as a posting and then may move on to senior positions or to other departments with resource requirements in the country. So, we are constantly renewing partnerships and I think the network evolves as people move through the system.”

HIC-based research partner



5.4 Long-term equitable partnerships

Mutual trust, participation and shared benefits and responsibilities are recurrent aspects of equitable partnerships referenced in our case study deep dive. Interviewees and workshop participants agreed that sufficient funding and generous timeframes are necessary to build and maintain authentic and ethical partnerships. This aligns with recommendations from ESSENCE on Health Research and UKCDR's *Good Practice Document: Four approaches to supporting equitable research partnerships* (2022).

Develop long-term academic collaborations

Long-term partnerships between UK and LMIC academic actors are central to achieving international development research impact. When paired with dedicated long-term funding, they can build upon emerging findings, capture longer-term impacts, and scale successes. Long-term academic collaboration can lead to new joint programmes and professional development opportunities. Networking grants are key for developing these relationships.

Some interviewees suggested that formal agreements such as Memoranda of Understanding (MoUs) can help sustain collaborations around common interests. When new research projects

emerge, formal partnership foundations can help encourage additional joint activities (e.g., staff or student exchange, co-authorship, and training).

Recognise the role of local intermediaries

Brokering roles are key in facilitating partnership building. Local intermediaries, such as implementing partners (e.g., NGOs) or LMIC-based academics with policy or community connections can support networking and contribute to effective knowledge sharing. Their tangible and intangible actions (see box below) facilitate coordination between academic and non-academic actors by minimising the risk of duplicating efforts and losing time or other resources. They also help to integrate diverse research teams and facilitate the translation of research findings into coherent and relevant outputs.

“I think the network of metal companies and foundry associations that existed and with whom he [the LMIC researcher] had a relationship also helped the project to progress as smoothly as possible (...) the existing relations helped bring the industry person to the university and solve logistic problems of working hours and location for conducting the training programmes.”

UK-based researcher

Local intermediaries' actions

Tangible: financial management, procurement, logistics, discounted rates

Intangible: introductions to key actors, vetting partners, mobilising networks, monitoring local actions, flagging sociocultural elements, dissemination support

Address power imbalances within partnerships

Interviewees highlighted the importance of reflecting on power dynamics and imbalances in resources, norms and needs at different levels (e.g., individual, institutional, structural) when building partnerships. Factors to consider include race, socio-economic status, religion, language, gender, health conditions, and nationality. Useful approaches to address imbalances include:

- Acknowledging and addressing differences between HIC and LMIC institutions and the social, political, and economic context in which they operate to manage expectations and ensure long-term trusting partnerships.
- Explicit recognition of different forms of research contributions (e.g., money, in-kind, knowledge, time, networks).
- Supporting distributed leadership with LMIC and HIC co-leads.
- Facilitating LMIC-led networks, applications, and authorship.
- Supporting early career researchers from underrepresented groups.

Acknowledge added value of relationships and lived experience

Interviews highlighted that relationships, collaborations, and interactions have a major influence on research impact as they contribute to meaningful partnerships and successful interdisciplinary and transdisciplinary research. Strong interpersonal relationships that promote respect and trust between partners have the power to amplify research impact by promoting co-creation and collaboration and fostering advocacy efforts that can influence different types of real-life changes.

Interviewees highly valued support for in-person meetings, staff exchanges, and on-the-ground activities. These encounters can help researchers and their partners better understand real-world challenges, needs and aspirations as well as each other's expectations and 'ways of doing'. Insights gained from lived experiences can shape research design and methodology and inform qualitative data by capturing nuanced aspects of people's experiences, emotions, and perspectives.



5.5 Embedded capacity strengthening and learning

An embedded capacity strengthening approach supports uptake at different levels (e.g., individual, organisational, environment), enhancing impact within the research context. Holistic support across all levels of capacity strengthening and learning enhances the ability of LMIC-based researchers and institutions to implement research findings, lead new streams of research and thus expand research impact. Previous UKCDR work on research capacity strengthening identified cross-cutting drivers from UK-funded initiatives in LMICs to support the design, implementation and evaluation of capacity strengthening, some of which overlap with the findings of this analysis (see UKCDR, 2022).

Take a long-term programmatic approach

Interviewees highlighted that achieving research impact requires consistent and sustainable capacity strengthening and learning. A long-term vision with clear goals embedded across projects and programmes (often driven by a theory of change) supports subsequent generations of research leaders, local intermediaries, and research users as well as the research support system and research infrastructure.

When research systems improve mechanisms and approaches for knowledge production, access, translation and use they are better prepared to address complex, real-life development challenges. Long-term programmatic visions provide the opportunity to adopt a continuous learning approach over an extended period, often across multiple phases or projects. Such visions can also incorporate capacity strengthening efforts to support sustainable change and knowledge translation (e.g., training, workshops, and mentoring). This can enhance the skills, knowledge, and capacity of research partners to apply research findings.

“Funders should do capacity strengthening for knowledge translation. They should embed this into the grant application and have it as a longstanding approach over time.”

LMIC-based researcher

Embed multi-way continuous learning processes across all partners and all disciplines

Interviewees stated that creating a culture of shared learning supports development-focused research capacity in the UK and LMICs. Fostering capacity for transdisciplinary research and knowledge translation can help researchers to work more closely with research users and thus amplify their impact. Extending capacity building support to partnerships and engagement with research users can help mitigate resource imbalances and bridge gaps between researchers and research users.

Focus on research management and support functions

Encouraging more LMIC ownership requires a comprehensive understanding of research management needs across LMIC research networks and HEIs. Therefore, capacity also needs to be built within the support system surrounding research at different levels.

Capacity strengthening in research management in LMICs enhances ownership and support for research uptake. Providing dedicated upskilling or training on research management and administration in advance of funding allocation (e.g., when shortlisted) can increase the confidence and technical knowledge of researchers and support officers, contributing to an enabling research environment.

“The reporting demand from the funders and the ability of our accounting office and the university to meet that demand has been a challenge.”

LMIC-based researcher



5.6 Operational processes

Efficient and proportional operational processes support research teams to deliver research successfully and realise their impact objectives. A flexible approach to operational management helps researchers navigate changing research contexts and react to emerging opportunities, supporting research relevance and impact. Flexibility in operational processes can take different forms. For example, embracing adaptive planning and decision-making approaches; adopting more agile management methodologies that promote iterative and incremental development; involving research users in decision-making processes; or easing resource allocation and management to respond to emerging needs or unexpected changes.

“The money did not flow directly from UKRI or the research council to an African partner. I see some of that is slightly beginning to change, but there’s still a long way to go. It is a way of building up the trust.”

UK-based researcher

Balance contracting requirements with partners’ capacities and on-the-ground realities

A clear understanding of HIC-based and LMIC-based partners’ operational systems - including organisational structures, sign-off procedures, and working dynamics - minimises risks of miscommunication and delays. Advance payments and flexible terms support LMIC-based research partners to start working, avoiding delays. Interviewees recognised the value of funding that allows overheads and per diem payments to research partners. They also highlighted that, in contexts with difficult to access banking systems or internet, alternative mechanisms were needed for funds to reach partners.

Support visa applications to enable two-way knowledge exchange

While research funders are unable to control visa applications, interviewees highlighted that delays and rejections in visa applications and the associated costs can hinder in-person relationship building and knowledge exchange. According to interviewees, dedicated visa and travel grants can address the time and cost of LMIC partners applying for visas and visiting the UK or other partner countries. In addition to funding travel costs to support in-person relationship building, flexibility in use of funds and time is needed to support alternative arrangements for knowledge exchange when required.

“Sometimes the visas to come to the UK proved a little bit difficult. For this event last May when we had an international exhibition, we invited all the required partners, particularly a senior academic member from the LMIC HEI partner who got his visa rejected so he could not join us, which is a very sad thing as he is a high-profile individual.”

UK-based researcher

Simplify due diligence and procurement processes

Efficient and proportional due diligence and procurement measures are central to simplifying research operations. Due diligence processes should be appropriate to the research being conducted. Open and early conversations on due diligence approaches can help clarify and challenge requirements, helping to avoid delays and support relationships between partners.

Procurement restrictions for acquiring equipment limits research capacity strengthening opportunities (e.g., providing infrastructure and doing in-country training). This requires flexibility in balancing contractual arrangements with project-specific needs and contextual dynamics.

“All the bank transfers were cumbersome and meeting the due diligence sometimes difficult. I understand that for large sums of money, but not for small quantities. We had to have collaborative agreements with each disbursement in the country and sometimes that took a while.”

LMIC-based researcher

Support project management and communication tasks

Access to sufficient resources (funding, time, staff) for project management tasks improves the reach of research impact. Interviewees recognised the value of having a programme or project officer to coordinate and oversee research project delivery and lead monitoring, evaluation and learning and knowledge management activities. This aligns with the need to embed capacity strengthening on research management and support functions.

Interviewees also recognised the value of dedicated communications and knowledge transfer support to ensure that research findings and impact stories are compiled, curated, and targeted, thus increasing dissemination and uptake. Prioritising research communication roles helps transform research findings into relevant formats for different audiences (e.g., infographics, videos, apps, online courses, workshops, and meetings).

“Probably if people with expertise on dissemination with non-academic public, policy brief writing, and policy dialogue are involved, it would be better. Resources and training in that area is needed and is one way in which funders could assist us for research uptake.”

UK-based researcher

6. Conclusion

Drawing from the REF2021 impact case studies, this report has shed light on the landscape surrounding UK international development research impact. Our analysis of 891 international development research case studies has shown that development research in UK HEIs is happening across all disciplines. Research is addressing pressing challenges around the world with a particular focus on health, wellbeing, and peacebuilding topics, as reflected in the submissions to the REF. The sample of international development research is primarily publicly funded, involving ODA and non-ODA components. Although the sample demonstrated various forms of impact, including shifts in debates or agenda setting, capacity building and networking, the type of impact most often showcased was influencing policy decisions or practice changes. The analysis also highlights that transdisciplinary research, facilitated by partnerships between academic, public, private, civil society organisations, and local communities, leads to wider impacts and benefits.

This report provides valuable insights for research funders, HEIs, academics, and research users on the connections between how research is conducted, and the type of development impact achieved. Our case study deep dive directly led to the creation of a new framework of research enablers that can support an enabling environment for development impact. The framework encompasses six dimensions: **understanding of impact; funding approaches; co-production with research users; long-term equitable partnerships; embedded capacity strengthening; and operational processes.** It also contains details of specific mechanisms and approaches for supporting them.

Understanding that impact is not a linear process is critical. Rather, impact is built over time, disciplines, contexts, funding programs, and research projects. This report has highlighted the need for the research community to effectively embrace flexibility, collaboration, and continuous learning throughout and beyond research cycles. It also emphasises the need for a long-term vision and strategies that can maximise the transformative potential of research on development outcomes.

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Annex 1 – Detailed Methodology

The analysis in this report is based on information gathered from the REF2021 impact case studies, stakeholder interviews, desk-based review of documents and a learning workshop. Building on section 2, this annex provides further details of the sources of information used in this analysis.

Portfolio analysis coding categories

Area of Analysis	Description of approach
SDG alignment	Each impact case study was coded against the primary SDG it related to. To avoid large interpretations or cross-cutting development issues, this framework does not include SDG 1 (No poverty) and SDG 17 (Partnerships for the goals) ³⁵ . SDG 10 (reduced inequalities) was only used as category of exclusion, relating to issues of migration and disability.
Impact location	The country impacted was identified using the impact location section and a search in the summary of the impact section. Both LMICs and HICs were listed. Data cleaning was required due to inconsistency of data input (e.g., different spellings and abbreviations of country names). There were 116 case studies that used the tag 'global' in the impact location section. For these, we checked for specific country impact locations in the impact summary section. Several case studies provided no information on impact location, which reduced the reliability of impact location analysis.
Partnership type	<p>The formal partners listed by each case study were coded against non-exclusive categories of location and sector:</p> <ul style="list-style-type: none">● Academic (LMIC, HIC, UK);● Public sector (LMIC, HIC, UK);● Private sector (LMIC, HIC, UK);● Civil society (LMIC, HIC, UK);● International organisations (covering inter-governmental organisations). <p>There are different interpretations of what a 'formal partner' means within the case studies, some provide details of every organisation connected to the research while others only listed academic partners. This was identified in case studies where the 'details of impact' section described partners not included in the 'partner' field on REF's database.</p>
Impacted research users	<p>After reading the 'impact summary' and 'detail of impact' sections, each case study was coded against non-exclusive categories of impacted research users:</p> <ul style="list-style-type: none">● Public sector;● Private sector;● Civil society;● Local community;● International organisations.

³⁵ This approach aligns with UKCDR standard practice in other areas of work.

Area of Analysis	Description of approach
Funding source	<p>Within the sample, 27% of case studies did not provide information on their funding programmes and 17% on their funders. This means that insights on funding source are partial.</p> <p>For all case studies with funding information the data was analysed through three lenses:</p> <ol style="list-style-type: none"> 1. Each case study was coded against funder types: <ul style="list-style-type: none"> ● UK public sector; ● UK private sector; ● UK philanthropy/civil society; ● International public sector; ● International private sector; ● International philanthropy/civil society; ● LMIC funding institutions; ● EU. <p>Each type of funder was counted only once (e.g., projects funded by the Natural Environment Research Council (NERC) and the Arts and Humanities Research Council (AHRC) are only counted one time as UK public sector).</p> <ol style="list-style-type: none"> 2. Funding information was coded against UKCDR members: <ul style="list-style-type: none"> ● DSIT (including UKRI and former department BEIS); ● FCDO (including former departments DFID and FCO); ● DHSC (including NIHR); ● Wellcome. 3. The funding information was assessed for presence of ODA. This involved cross-checking funding programmes against a UKCDR compiled list of ODA funded programmes and initiatives. <p>Where multiple funding sources were provided, it was impossible to know the proportion of funding from each source, meaning no weighting could be ascertained about the contribution of different funders.</p>
Type of impact	<p>After reading the 'impact summary' and 'detail of impact' sections, each case study was coded against the non-exclusive categories and sub-categories of types of impact in UKCDR's analytical framework (see Table 4).</p>
Enablers of impact	<p>After reading the 'impact summary' and 'detail of impact' sections, each case study was coded against the non-exclusive categories and sub-categories of research enablers in UKCDR's analytical framework (see Table 6).</p>

Interviews with case study research teams

Drawing from our international development research sample of REF2021 impact case studies, we identified 10 projects for a deep dive (see table below). Selection criteria included a high variation of types of impact (5 or more impact sub-categories), high presence of research enablers (5 or more enabling sub-categories of initial framework), and direct involvement with research end-users.

Panel	UoA	UK HEI	Impact case study title	Location
A	Agriculture, Food and Veterinary Sciences	Royal Veterinary College	Elucidating the transmission dynamics of novel zoonotic schistosomiasis to inform avenues for sustainable control in Africa	East and West Africa, Middle East
A	Psychology, Psychiatry and Neuroscience	King's College London	Global mental health	Ethiopia, India, Nepal, Nigeria, South Africa, Uganda
B	Physics	University of Manchester	Radio astronomy and big data - bringing STEM training to the developing world	East, West and Southern Africa, Colombia, Thailand
B	Engineering	University of Northampton	Application of Non-Destructive Ultrasonic Testing for Metal Castings and Developing the Skills of Indian Foundry Workers	India
C	Geography and Environmental Studies	University of Lincoln	Mapping Malaria Transmission using Hydro morphology to Inform Public Health Strategies in Africa	Zambia
C	Architecture, Built Environment and Planning	Nottingham Trent University	Smart Preservation of Middle Eastern Urban and Cultural Heritage: Shaping Policy and Practice	Egypt, Iraq, Tunisia, India
C	Geography and Environmental Studies	Royal Holloway and Bedford New College	Amplifying Indigenous knowledge within environmental management and governance in South America	Guyana, Venezuela, Brazil, Suriname, French Guyana
D	Music, Drama, Dance, Performing Arts, Film and Screen Studies	Queen Mary University of London	Performing Development: Progressing the UN SDGs in Fragile Territories through Collaborative Arts-based Research Projects	Brazil, Colombia
C	Business and Management Studies	University of Sussex	Driving sustainable urban waste policy and practice in India	India
D	History	The University of Birmingham	Children Born of War: Empowering advocacy, enhancing wellbeing and changing their experiences in the present and the future	Democratic Republic of the Congo, Uganda, Bosnia, Vietnam, Haiti, Lebanon, Canada

Between November 2022 and January 2023, we conducted semi-structured interviews with three to four members of each core research team. Each interview included the UK-based principal investigator (PI), the LMIC co-PI and one or two research users. The interviews were audio-recorded and transcribed and then analysed by combining two approaches: a deductive coding against initial research enablers framework (see Table 6) and an inductive thematic coding to identify common themes.

Validation and learning workshop

In March 2023, UKCDR convened a virtual learning workshop to further develop the findings of the case study interview analysis. The event was attended by 20 participants, including research impact experts, academics (from different disciplines), research managers and research users, from LMICs and the UK.

Participants were presented with the research enablers framework developed through the interview analysis. They were then separated into four breakout rooms and asked to both validate and build upon the framework by sharing additional enablers and barriers to research impact and examples from their own experience. A Miro board was used for facilitation and note-taking. The insights shared by participants were synthesised with existing analyses to produce the findings on research enablers in section 5.

Desk-based research

Year	Source	Document title	Document type
2014	Overseas Development Institute	ROMA: a guide to policy engagement and influence	Analysis report
2016	IDRC	Research Quality+	Analysis report
2020	The Impact Initiative	Maximising the Impact of Global Development Research	Edited report
2021	RAND Europe	Understanding the perceptions of the Research Excellence Framework among UK researchers	Analysis report
2021	INASP	Doing research differently: How to maximise the usefulness and use of research for policy and practice	Presentation
2021	The Impact Initiative	Celebrating the impact of the raising learning outcomes in education systems programme	Working paper
2022	REF2021	Interdisciplinary panel report	Analysis report
2022	REF2021	Interdisciplinary panel protocol	Guideline
2022	The Metric Tide Revisited	Harnessing the metric tide: indicators, infrastructures and priorities for responsible research assessment in the UK	Analysis report



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