

Evaluation Strategy Report

Newton Fund Evaluation



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Department for Business Innovation and Skills (BIS)
Newton Fund Evaluation

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- Quality management
- HSSE and risk management
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- Personnel recruitment and management
- Performance Management and Monitoring and Evaluation (M&E)

Jamie Fotheringham, Project Director

Signature:





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Executive summary

The Newton Fund is a £375m 5-year programme supported by the Department for Business, Innovation & Skills (BIS) as part of the UK's Official Development Assistance (ODA) Commitment.

To achieve its aim of developing science and innovation partnerships that promote the economic development and welfare of 15 partner countries¹, and addressing the problems of poor people around the world, the Fund delivers three types of activity: capacity building, fellowships and mobility schemes (People Pillar); research collaborations (Research Pillar); and innovation partnerships to develop innovative solutions to development issues (Translation Pillar).

In August 2015, BIS contracted Coffey International as the Evaluation service provider for the Newton Fund. Coffey will work in association with PACEC (Public And Corporate Economic Consultants Ltd) throughout the evaluation. **This report presents the Evaluation Strategy**, presenting specific aspects of the evaluation and the justification for design and approach choices after the completion of the Initial Analysis Phase (November – February 2015).

Context, Purpose and Scope of the Newton Fund evaluation

The **rationale for the Newton Fund** is based on the premise that investing in science and innovation research capacity should drive economic growth, and subsequently help tackle social challenges. Covering 15 countries, the Fund is also designed to address a funding gap owing to the perceived risk and potential returns on innovative research projects for businesses, academics and investors.

The specific aims of the evaluation are to **establish whether the goal of the Newton Fund** – to develop science and innovation partnerships that promote economic development and welfare in partner countries – **is being delivered**; and whether it is **being delivered in a way that represents value for money**. The evaluation will also explore secondary benefits of the Fund to the UK – including opportunities for collaboration and trade.

The **scope of the evaluation** evolved throughout discussions with BIS, the Newton Central Team and the Expert Evaluation Advisory Group (EEAG) during the Inception and Initial Analysis Phases. It includes an **in-depth focus on a sample of eight countries** through thematic impact studies, covering Brazil, China, Malaysia, India, Mexico, the Philippines, South Africa and Turkey.

The immediate recipient of this assignment is BIS (primarily the Newton Central Team), but there are broader benefits for other stakeholders working on the Newton Fund, including but not limited to the UK delivery partners, local delivery partners, in-country teams, funding agencies, research institutions, local governments, non-participant countries and other beneficiaries and stakeholders in the science and innovation sectors.

Evaluation approach

The Newton Fund involves a variety of different types of activities. Some are designed to have a **relatively direct effect** on target groups (e.g. scientists and businesses) in specific countries while other activities are designed to have a **less direct but more pervasive and widespread effect** (e.g. embedding an innovative culture in institutions and governments). Furthermore, the **challenge of attribution** is compounded in this case because the Newton Fund will implement overlapping projects under different pillars, with multiple goals that are intended to reinforce one another.

With **no viable counterfactual options considered feasible and/or adding value**, it was agreed that additional emphasis will be placed on gathering beneficiaries' own assessment of additionality. Using information and data collected as part of the Newton Fund programme-level evaluation, our evaluation design will bring together the analysis and findings from different quantitative and qualitative, primary and secondary data sources, using [contribution analysis](#) as part of a theory-based evaluation approach.

Based on the Newton Fund Theory of Change (developed by Coffey in consultation with Newton Fund stakeholders), the team will identify the expected pathways of change, including the role of internal assumptions and external factors. These pathways of change will be tested and documented as part of our approach, as well as

¹ 15 countries were originally selected. Additional countries are now being considered.

the impacts achieved. The contribution analysis will allow this evaluation to **assess alternative and external explanations** for change to test the extent to which programme activities contributed to observed change.

We will use an evaluation framework to guide the data collection and analysis of primary and secondary data. It includes the evaluation questions, sub-questions if relevant, the judgment criteria the Evaluation team will use to answer the questions, and the indicators we will look at to inform our judgment.

Finally, these activities will be supplemented by a **Process Evaluation** as well as a **Value for Money assessment**.

Evaluation methods

The methodology for the Newton Fund evaluation is articulated around **several data collection methods**. We will:

- produce country-level baseline and endline reports;
- carry out online surveys of beneficiaries, as well as telephone interviews with beneficiaries;
- review funded and rejected research applications;
- undertake thematic impact studies, and a UK benefits study.

As part of the Process Evaluation and the VfM Assessment, the evaluation team will also conduct a range of document reviews and interviews with relevant stakeholders.

Each **type of evaluation** (i.e. Contribution Analysis and Process Evaluation) will involve the analysis of different types of data (evaluation team primary data; secondary data such as delivery partners monitoring reports or national statistics), collected through different methods (e.g. online surveys, semi-structured interviews, case studies).

To ensure that the data is analysed and synthesised in a way that provides the most objective and meaningful findings, the evaluation process will:

- assess the **quality of evidence** submitted by Newton Fund actors;
- explore the **pathways of change**, including the role of internal assumptions and external factors; and
- build upon **syntheses workshops** to discuss the interpretation of the analyses and the findings that emerge.

Work Plan

The sequencing of evaluation activities has been organised as follows:

- **Phase 1 – Inception**: Short inception phase (September and October 2015) aiming to establish the scope (and budget) of the programme evaluation, for approval by the Newton Fund Board.
- **Phase 2 – Initial Analysis**: Familiarisation phase (November 2015 to March 2016) with the objective of tailoring the evaluation strategy and gathering information to establish a baseline for the Fund based on secondary sources.
- **Phase 3 – Mid-term Review**: Primary research phase (April 2017 to December 2017) including data collection for the process evaluation, and contribution analysis using findings from thematic impact studies, telephone interviews and online surveys.
- **Phase 4 – Final Evaluation**: Primary research phase (2020/21)² including thematic impact studies for the final evaluation, final step of the contribution analysis, an assessment of UK benefits and the VfM assessment.

² Final timetable for endline evaluation to be agreed

1 Context, Purpose and Scope of the Newton Fund evaluation

1.1 Introduction

1.1.1 Purpose of the Evaluation Strategy

In August 2015 Coffey International Development Ltd ('Coffey') in conjunction with Public and Corporate Economic Consultants (PACEC) were appointed by the Department of Business Innovation and Skills (BIS)³ to undertake a longitudinal evaluation of the Newton Fund.

Following the [Inception Phase](#) (September – October 2015), an **Inception Report** was produced by the evaluation team, which included the findings from a literature review on Newton Fund themes of interest, the draft Theory of Change for the Fund based on available programme documentation and an outline methodology for the evaluation.

The evaluation team then engaged in the [Initial Analysis Phase](#) (November – February 2015) with the aim of gathering baseline information and getting more familiarised with the programme. This phase included a number of workshops with delivery partners, Newton Fund staff and key stakeholders, as well as three in-country, week-long visits to the following country programmes: Mexico, China and Thailand (including a visit to the Singapore Hub).

The Initial Analysis Phase concluded with the production of three distinct deliverables:

- a revised **Evaluation Strategy**, incorporating more specific aspects of the evaluation and the justification for design and approach choices;
- an **Initial Analysis Report**, summarising the key learning points from the Initial Analysis Phase. This included early recommendations to the Newton Central Team with regards to Year 1 of the Newton Fund and the delivery structure of the fund; and
- **15 country-level Baseline Reports** presenting the findings of desk-based research on relevant secondary data to establish comparable baselines for each Newton Fund country. A concise overarching report accompanies these individual baseline reports to summarise the situation at baseline for the Fund as a whole.

The Initial Analysis phase also resulted in the preparation of a specific report on Newton Fund monitoring systems. The report presented recommendations for BIS to ensure a more consistent approach to output monitoring during the remainder of the Fund.

The purpose of the Evaluation Strategy is therefore to present the final design and implementation plans for the evaluation, which will be undertaken in several stages between 2016 and 2019.

1.1.2 Newton Fund objectives

The Newton Fund launched in April 2014 with funding of **£375 million over 5 years as part of UK's Official Development Assistance (ODA) commitment**.⁴

The overarching goal of the Fund is to *"promote the economic development and welfare of either the 15 partner countries or, through working with the partner country, to address the problems of poor people around the world. It will do so by increasing their scientific capacity and unlocking further funding to support poverty alleviation"*.

To achieve its aim of developing science and innovation partnerships that **promote the economic development and welfare of developing countries**, the Fund delivers three types of activities (Pillars):

- capacity building, fellowships, mobility schemes ([People Pillar](#));

³ Now the Department for Business, Energy and Industrial Strategy (BEIS)

⁴ The funding envelope for the Fund was increased and the timeframe extended to 2021 in an announcement made in January 2016. Discussions are on-going with BEIS as to how to adapt the evaluation timeframe and approach in response to the extension of the Fund.

- research collaborations ([Research Pillar](#)); and
- innovation partnerships and challenge funds to develop innovative solutions to development issues ([Translation Pillar](#)).

The programme's rationale is based on the premise that investing in science and innovation research capacity should drive economic growth, and subsequently help tackle social challenges. Covering 15 countries, the Fund is also designed to address a funding gap owing to the perceived risk and potential returns on innovative research projects for businesses, academics and investors.

The sustainability of partnerships, collaborations and relationships developed through the Newton Fund will be a critical success factor. If the overarching goal is to be achieved, these relationships must last beyond the lifetime of the Fund itself – with the aim being that they will ultimately lead to systemic improvement in science and innovation capacity in partner countries in the longer term.

The Fund also has a secondary objective to secure benefits to the UK – this will be achieved by presenting further research opportunities for the UK science base, improving the skills and activity of UK innovators and researchers, and unlocking opportunities for trade.

1.1.3 Evaluation objectives

The core aim of the evaluation is to establish **whether the goal of the Newton Fund** – to develop science and innovation partnerships that promote economic development and welfare in partner countries, and address the problems of poor people around the world – **is being delivered; and whether it is being delivered in a way that represents value for money**. The evaluation will also provide an assessment of the benefits for the UK, including opportunities for collaboration and trade.

The evaluation will therefore assess both the impacts and pathways to impact achieved by the Fund, including the synergy effects expected across the three pillars. This requires an integrated evaluation framework which accounts for the inner dynamics of each pillar and for the overarching fund-level results.

The Request for Proposals contained an initial set of evaluation questions covering issues of the relevance, effectiveness, impact, value for money and sustainability of Newton Fund activities. We have expanded on this initial list of evaluation questions during the Inception and Initial Analysis Phases and a full list of questions is presented in [Section 2.2](#) of this report, framing the evaluation objectives.

The technical scope and geographical scope of the evaluation have evolved as part of the discussions with BIS during the Inception and Initial Analysis Phases. Implications are presented in [Section 1.3](#).

1.1.4 Evaluation team

Coffey leads the evaluation with specialist support and input from PACEC at all stages of the evaluation.

The evaluation team primarily reports to the **Newton Fund Evaluation Expert Advisory Group (EEAG)** which oversees the evaluation strategy and its implementation. Additional reporting or presentations to the Advisory Board and/or the Newton Board is provided as and when requested by the EEAG. The EEAG's composition has been designed with the aim of ensuring diversity of views. It includes representatives from BIS, the NF Central Team, DFID, the National Audit Office, the University of Southampton, the UK Collaborative on Development Sciences and DPs such as the Medical Research Council, and the Science and Technology Facilities Council.

1.1.5 Newton Fund implementation timelines and evaluation phases

The Newton Fund was officially launched in April 2014, and is planned to continue its activities until 2019. The evaluation mandate aligns with the duration of the programme, from 2014 to 2019. Nonetheless, having been contracted at the end of Year 1 of programme implementation, **the evaluation team was required to establish a baseline *a posteriori***, that is, relying on available secondary data and Newton Fund partners' data from Year 1.

Additionally, each partner country is characterised by a different set of priorities, and each will benefit from a different level of funding support. In the first year of operation (2014 – 2015), funding to China – at around £13.5 million – was almost three times higher than the next highest recipients (India and Brazil received £4 million), in line

with the funding envelopes envisaged for each country. These funding envelopes are released on a yearly basis, with the objective of spending £75 million every year across the Fund.

As such, the Newton Fund programme is not designed to be implemented using ‘management stages’ (e.g. Inception, Phase 1 activities, Phase 2 activities, Piloting Phase, Scale-up Phase, Closing Phase, etc.) but is rather managed through continuous assessment of emerging activities developed by DPs. The totality of the £75 million need to be spent before the end of each year. **For the evaluation, this means that there were no ‘natural’ points at which to assess the impact of ‘sets of activities’.** As a result, the sequencing of evaluation activities has been organised as follows:

- **Phase 1 – Inception:** Short inception phase (September and October 2015) aiming to establish the scope (and budget) of the programme evaluation, for approval by the Newton Fund Board.
- **Phase 2 – Initial Analysis:** Familiarisation phase (November 2015 to March 2016) with the objective of tailoring the evaluation strategy and gathering information to establish a baseline for the Fund based on secondary sources.
- **Phase 3 – Mid-term Review:** Primary research phase (June 2016 to March 2017) including data collection for the process evaluation, and contribution analysis using findings from thematic impact studies, telephone interviews and online surveys.
- **Phase 4 – Final Evaluation:** Primary research phase (March 2018 to March 2019) including thematic impact studies for the final evaluation, final step of the contribution analysis, an assessment of UK benefits and the VfM assessment.

1.1.6 Report structure

The remainder of the report is structured as follows:

- **Section 1.2** presents an overview of the Newton Fund and its development during its first year of operation. It also introduces the Theory of Change approach that shapes the evaluation, along with the change narrative produced during the Initial Analysis Phase;
- **Section 1.3** details the purpose and scope of the Newton Fund evaluation, as well as its target audience, key stakeholders and relation to other programmes working in the same space;
- **Section 2** presents the evaluation questions, the key considerations taken into account for the evaluation design, and the evaluation framework.

1.2 Background to the Newton Fund

Much of the information presented here is drawn from an internal document **which set out the original business case for the Newton Fund**. This document explained the considerations behind certain aspects of the design of the Fund, such as why certain countries were targeted and why the particular funding model was adopted. In addition, the Evaluation Team has had access to detailed minutes from the Governance Board meetings held to date which provide insight into the evolution and thinking behind decisions made since the original business plan was considered.

Finally, this section is informed by the consultations conducted with the Newton Fund delivery partners (15 UK delivery partners) and the in-country teams across the Fund (15), along with the observations and interviews with key stakeholders, internal and external, during the in-country visits (China, Thailand and Mexico).

The Newton Fund in brief

Delivery partners: The Fund is being delivered by 15 delivery partners. They develop and run calls, and allocate and manage the money they receive as part of the Newton Fund.

Academy of Medical Sciences; British Academy; British Council; Innovate UK; Met Office; Royal Academy of Engineering (RAEng); Royal Society; Research Councils UK (RCUK); Arts and Humanities Research Council (AHRC); Biotechnology and Biosciences Research Council (BBSRC); Economic and Social Research Council

(ESRC); Engineering and Physical Sciences Research Council (EPSRC); Medical Research Council (MRC); Natural Environment Research Council (NERC); Science & Technology Facilities Council (STFC).

Partner countries: All partner countries are on the OECD DAC (Development Assistance Committee) list of ODA recipients.

Brazil, Chile, China, Colombia, Egypt, India, Indonesia, Kazakhstan, Malaysia, Mexico, Philippines, South Africa and wider Africa, Thailand, Turkey and Vietnam.

Newton Central Team and in-country teams: At the operational level, the Newton Central Team (NCT) keeps track of spending, monitors and supports UK delivery partners' activities. The NCT liaises with them to determine their funding (from the available annual budget of £75 million) and the scope of their delivery commitments. In-country teams are tasked with establishing connections and supporting local funding partners.

1.2.1 Context, business case and recent developments

The 2013 business case outlines the need for the UK to respond to the changing international science and innovation landscape. As **emerging economies are becoming increasingly important players in the global science research and innovation sphere**, networks between these countries and the UK are not sufficiently established, if at all.

The Newton Fund business case presents a number of reasons (information failures, co-ordination failures, risks and uncertainties) for which these networks are **unlikely to organically materialise**. As such, in order to ensure the UK is positioned to properly exploit new opportunities for collaborations, government intervention is a necessary first step. A number of missed opportunities for collaboration are ascribed to the lack of structured funding. Based on this rationale, **emerging economies with potential for scientific excellence are to be targeted for partnerships**.

As the programme evolved, much greater emphasis was placed on the **benefits of collaboration to the partner countries**, ultimately resulting in the agreed goal of the Fund to *promote the economic development and welfare of the partner countries and to address the problems of poor people around the world*. This shift in emphasis was agreed by the Newton Fund Board in late 2013, with the benefits to the UK presented as secondary benefits of the Fund.

Since the formal launch of the Fund in April 2014, and periodically since then, there have been important developments regarding the Fund's management and objectives. The absence of a "Year 0" or Inception Phase has meant that **some aspects of the Fund have had to be developed in response to identified needs, or issues arising**. In addition, various monitoring elements (such as the activity tracker) have gradually been put in place during the first year of operation (2014 – 2015).

In the 2015 UK Spending Review it was agreed to extend and expand the Newton Fund, extending from 2019 to 2021 and with an additional £150 million per year by 2021, resulting in a total UK investment of £735 million. The increase in scope and extended timelines of the Fund will have implications for the content and timing of its evaluation that will be discussed with the Newton Central Team and EEAG to agree amendments to the evaluation strategy.

1.2.2 Selection of partner countries

Countries targeted for collaboration as part of the Newton Fund were selected on the basis of a number of criteria, among which:

- being identified under the Foreign Office *Emerging Powers Initiative*⁵ as countries with whom the UK should be increasing its efforts to engage;
- being on the Development Assistance Committee (DAC) list of Overseas Development Aid recipients; and
- having demonstrated a strong appetite to work with the UK to increase their ability to use research and innovation for economic and social goals.

⁵ The Initiative was established in May 2010 to co-ordinate a cross-government strategy aimed at creating much deeper relationships with the emerging powers, in pursuit of UK security and prosperity objectives.

To assess and rank countries according to science and innovation opportunities, the following indicators were considered⁶:

Indicators to support current potential for research

- current levels of international collaboration;
- publications share;
- Field Weighted Citation Index (FWCI); and
- share of top 1% citations.

Indicators to support future potential

- international collaboration change;
- publication share change;
- citation share change; and
- FWCI change over time.

Indicators of innovation collaboration potential

- World Economic Forum survey on capacity for innovation;
- number of patent applications; and
- R&D company spend.

In addition, indicators of student and research mobility were considered to assess the potential for further access to the global student and researcher market.

ODA eligibility

The UK's Newton Fund money is classed as official development assistance (ODA) and has been allocated under Section 1 of the International Development Act 2002. Newton Fund activities need to demonstrate that they are aiming to contribute to a reduction in poverty, and aim to further sustainable development (development that is likely to generate lasting benefits for the population of the country to which it is provided) or improve the welfare of the population of Newton Fund countries.

The selection of participant countries resulted in 15 countries being adopted as partners for the Newton Fund, as shown in [Table 1](#).

Table 1. Newton Fund selected countries

Selected countries	Tier one	Tier two	Tier three
Criteria	Higher level of research and innovation and sophisticated innovation infrastructure	Some high level research and innovation but aspiration to develop	Lower current excellence but increasing investment
Countries	China, India, Brazil, Turkey, South Africa	Mexico, Chile, Malaysia, Thailand	Colombia, Philippines, Indonesia, Vietnam, Kazakhstan, Egypt
Objective	Research and innovation collaborations to generate excellent research and build strong relationship	Mix of research and innovation; build strong relationships	Capacity building, training with some research and innovation collaboration

The funding structure chosen for the Newton Fund has implications for the selection of projects in these countries, since they must comply with a number of criteria to be eligible. **ODA eligibility** is also applied at the project-level,

⁶ Original business case.

not only at the partner country level. Additionally, **matched funding** (see below) is a crucial requirement and ensures the involvement of a diversity of local delivery partners/ funders in selected partner countries. It is important to note that some countries such as Chile are likely to move off the DAC list (ODA eligible) by 2017, which means they will not be eligible to receive Newton funding unless they agree to direct the funding towards addressing the problems of poor people around the world.

Match funding and co-investment

While one of the specificities of the Newton Fund is that the funding is classed as official development assistance (ODA), a second important feature of the Fund is its **co-investment objective**. Initially, the idea was to secure a cash equivalent sum from partner organisations, in part to improve the sustainability of the Fund. Over time, this objective evolved to take into account differences in purchasing power and benefits in-kind, as well as difficulties in matching funding to different accounting periods. As such, the need for matched effort has been adopted as a better measure of co-investment.

1.2.3 Target beneficiaries, types of interventions and delivery structure

The Fund aims to reach and support **four different types of beneficiaries**, from individuals to institutions and departments:

- **Individuals/ researchers** (primarily under the People pillar) – for instance, through the *Newton International Fellowship Scheme*⁷, *PhD Placements*⁸ and *Consortium building activities*⁹.
- **Groups/ joint research groups** (primarily under the Research pillar) – for instance, a small grant call on *Cultural Heritage and Rapid Urbanisation in India*¹⁰ and a joint *science-led research programme*¹¹.
- **Institutions/ departments** (primarily under the Research and Translation pillars) – for instance, through *Institutional Links*¹².
- **Other key stakeholders** such as policy makers or businesses (primarily under the Translation pillar) – for instance, through *training material* and *trainings of policy makers in the Pacific Alliance on delivering innovation*¹³.

Activities under the Fund have been grouped under **three categories – pillars**, under which funding schemes are approved. Each has a different objective, although some overlap and synergies are expected between the different pillars:

- **People pillar**: increasing capacity in science and innovation, individually and institutionally in partner countries.

Example of approved schemes: Newton PhD Programme, Researcher Links, International Collaboration, Advanced Fellowships, International Fellowships, Innovation Leadership, Professional development and engagement, STEM Education, Technical training and employability.

- **Research pillar**¹⁴: research collaborations on development topics.

⁷ This programme focuses on early career international researchers. The focus will be on developing their research strengths and providing support for more formalised training and development in collaboration with a UK partner. The award will support the international researcher in the UK, with the intention of transferring knowledge and research capabilities to academics from partner countries. Academy of Medical Sciences and Royal Society (India)

⁸ To provide development opportunities for PhD students and establish research links between research groups in the UK and China. British Council (China)

⁹ This visit will provide an opportunity for stakeholders engaged in the identified challenge area (e.g. energy) from both countries to meet, discuss, and form partnerships ahead of the collaborative funding calls. It should lead to a better and more impactful response to the funding call. Innovate UK (India)

¹⁰ This call will enable joint UK-India research teams to bid in for funding to deliver small scale (up to £25,000) research projects, based on priorities identified at a workshop in March 2015. (Arts and Humanities RC, India)

¹¹ Partnership between China's National Natural Science Foundation of China and the UK's NERC and ESRC to establish a joint science led research programme into Increasing Resilience to Natural Hazards in Earthquake-prone Regions in China (IRNHIC). (NERC, China)

¹² To initiate new research and innovation collaborations between academic groups, departments and institutions in partner countries and the UK and support the exchange of research and innovation expertise and the translation of research knowledge into tangible benefits. British Council (Vietnam)

¹³ To strengthen the innovation ecosystems of our partner countries to enable a stronger and greater response to tackling socio-economic challenges existing within those countries. Innovate UK (Mexico, Chile and Colombia)

¹⁴ Previously referred to as the Programme pillar.

Example of approved schemes: Collaborative Research, Joint centres, Innovation Infrastructure.

- **Translation pillar:** creating collaborative solutions to development challenges and strengthening innovation systems.

Example of approved schemes: Institutional Links, Research and Innovation Bridges, Government and Innovation Agencies, Developing entrepreneurial knowledge and capability, Climate science for services partnership.

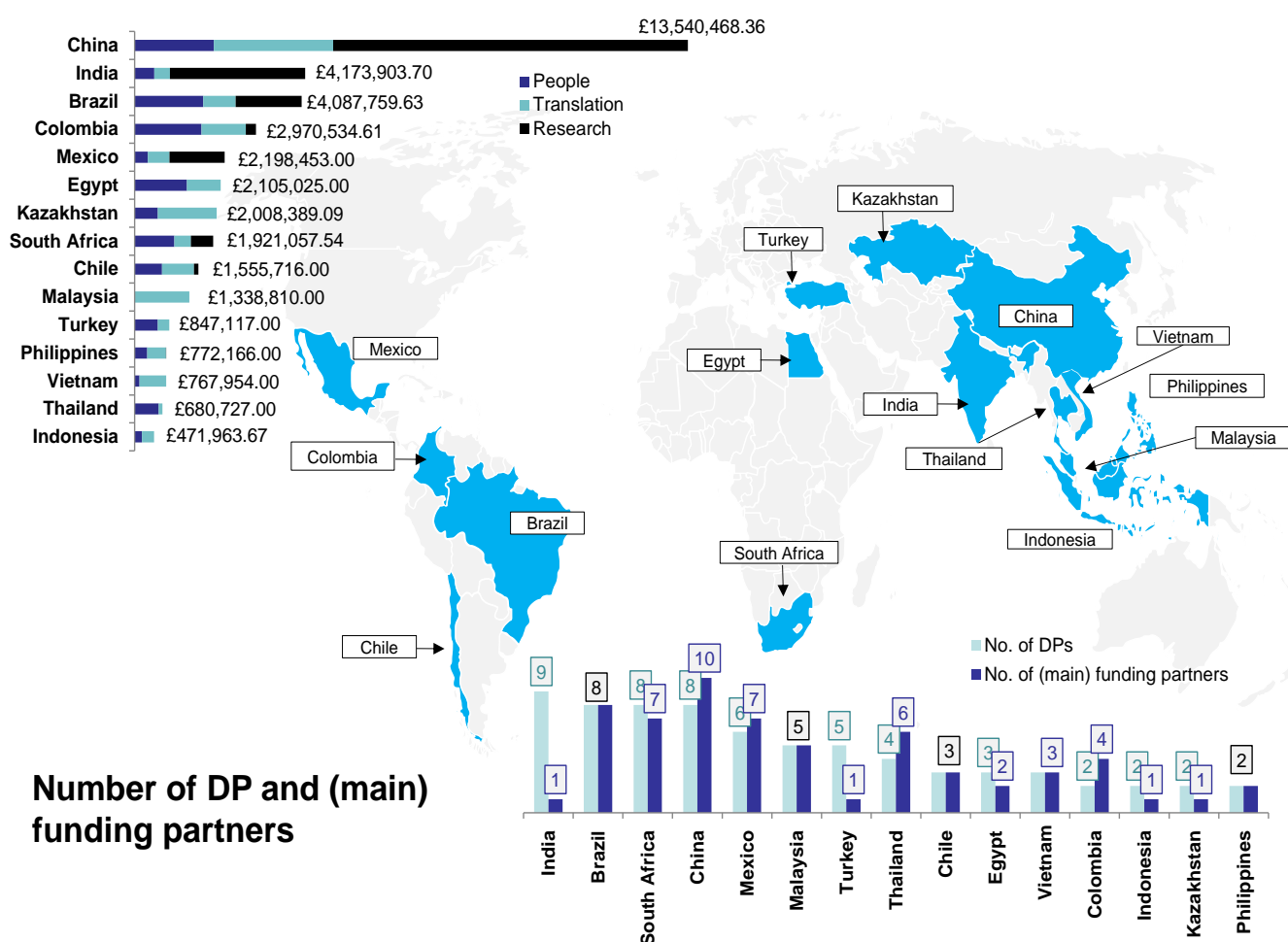
Sources: Pillar definitions Newton Fund website “About”; Approved programmes: 2015/16 grant review panel meeting

In [Section 1.2.4](#), we present a detailed Theory of Change and more information in relation to the different types of Newton funded activities.

Depending on **UK delivery partners’ presence, agenda and capacity to identify local partners** in each of the 15 partner countries, Newton Fund countries receive a variable amount of funding every year. The number of local funding partners working with UK delivery partners is specific to each country, and evolving as programme implementation progresses. To date, there are over 100 different local funding partners involved in the delivery of the Newton Fund across the 15 countries, and the number of *key* funding partners per country (i.e. with whom there is a more extensive collaboration in place) is between one and ten, usually including Science and Education ministries, national academies and funding bodies.

As a result, the activity of the different UK delivery partners varies from country to country. **India, Brazil, South Africa and China have the highest number of UK delivery partners already commissioning work** (between 8 and 9). By comparison, Colombia, Indonesia, the Philippines and Kazakhstan had only two UK delivery partners operating in Year 1. This is not surprising given the different starting points in each country, and the extent to which relevant structures are already in place.

[Figure 1](#) shows the number of key funding partners by country, as well as an overview of the level of funding allocated to each partner country in Year 1 (2014/15) and the proportions spent on each of the three pillars. The variance in spend between countries is in line with the funding envelopes envisaged for each country at the outset.

Figure 1. Summary of Year 1 funding commitments

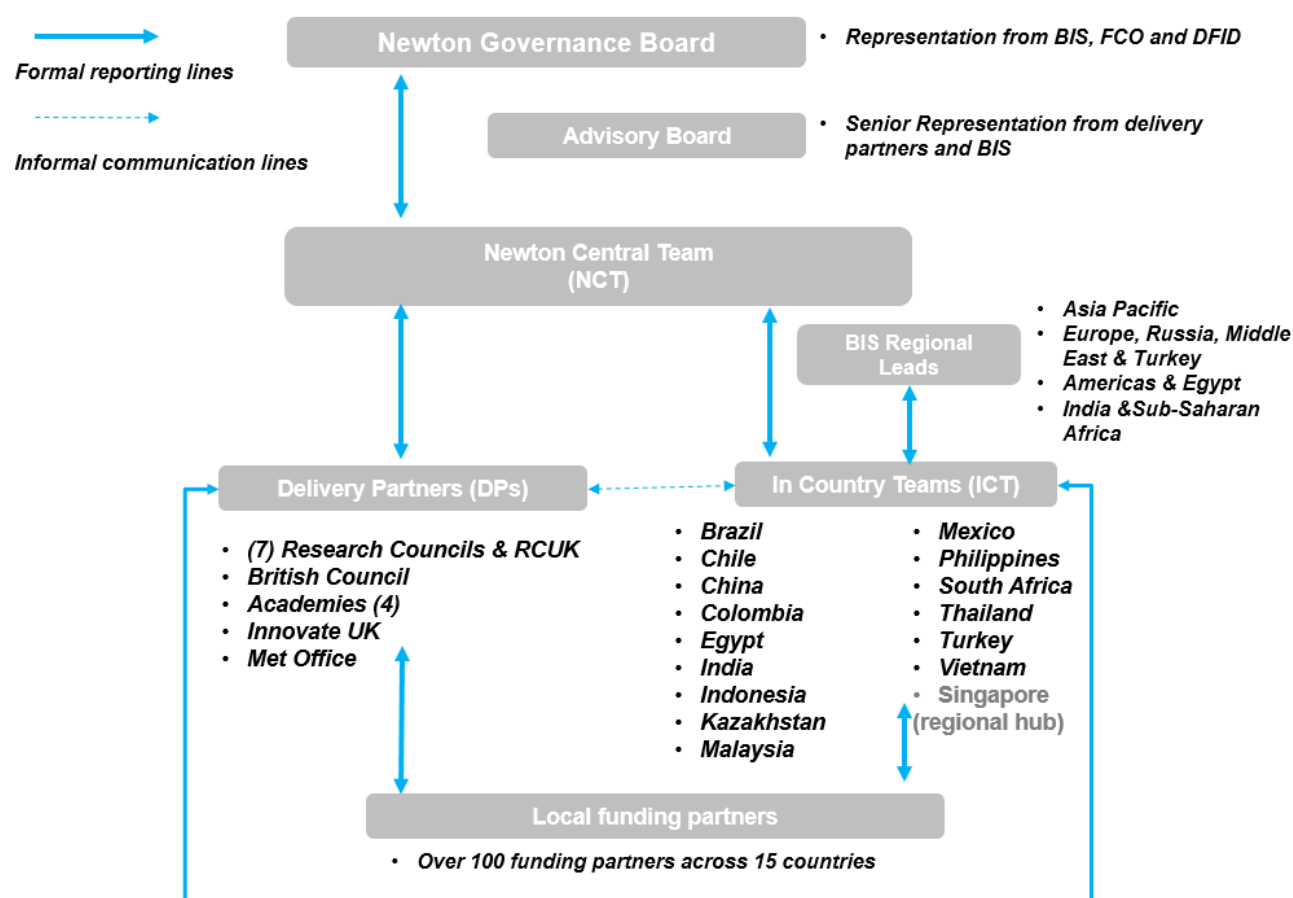
Sources: Activity Tracker Version June 3.2 - Committed funds FY14/15); Number of DP (self-reported at workshop and Activity Tracker); Number of (main) funding partners (Newton Fund website, "[About partnering countries](#)").

The governance structure of the Newton Fund is shown in [Figure 2](#).

The strategic oversight of the Fund is the responsibility of the **Newton Governance Board**. This group has representation from BIS, FCO and DFID and is an impartial decision-making body. It convenes on a quarterly basis and receives quarterly reports from the Newton Central Team. An **Advisory Board** (with senior representation from the Delivery Partners) meets quarterly, three weeks prior to the Governance Board meeting.

At the operational level, the **Newton Central Team** (NCT)¹⁵ keeps track of spending, monitors and supports Delivery Partner activities. The NCT liaises with the 15 UK **delivery partners** (DPs) to determine their funding (from the available annual budget of £75 million) and the scope of their delivery commitments. The DPs, together with the **In-Country Teams** (ICT) are responsible for establishing connections and support from **local funding partners**.

¹⁵ hosted by the Engineering and Physical Sciences Research Council (EPSRC).

Figure 2. Newton Fund governance structure

Source: Schematic adapted by Coffey from "BIS proposed governance structure for Newton Programme"

1.2.4 Theory of Change and anticipated impact, outcomes and outputs

While the original business case outlined a series of market failures hindering the development of science and research collaborations, **no detailed intervention logic was available to reflect the current focus of the Fund at the time the evaluation was commissioned**. As a result, this formed an early part of the evaluation work during the Initial Analysis Phase.

Importance of the Theory of Change

The Theory of Change (ToC), or intervention logic, is critical to the design of the evaluation as it provides a framework for the assessment of progress and achievements with respect to planned outputs, intermediary and final outcomes (and impacts). Defining the intervention logic through the Theory of Change is critical for the evaluation as it maps the causal chain of events (and assumptions) underpinning the Fund – providing a clear framework for the assessment of progress towards planned outputs and outcomes, and how these are intended to be achieved.

During the Initial Analysis Phase, after producing the Theory of Change, we developed an overarching Evaluation Framework (Section 2.4) that is framed by the programme-level Theory of Change and sets out clear indicators and measures that will guide the aggregation of results throughout the lifetime of the Newton Fund evaluation – including the benefits for partner countries and those for the UK.

As a result, the Theory of Change has been developed during the Initial Analysis Phase **based on a series of activities**, to form the basis of the evaluation strategy:

- *workshop discussion sessions* at the Global Gathering Event with in-country teams held and organised by BIS in November 2015;
- *consultations* with BIS and the Newton Central Team;
- *in-depth interviews* with all 15 delivery partners and 15 in-country teams;
- *familiarisation visits* to Mexico, China and Thailand (including Singapore hub), involving meetings with in-country teams and key local stakeholders (e.g. universities, government officials, Fund beneficiaries, funding partners, local representatives of delivery partners), to deepen our understanding of the Fund and how approaches vary across different countries; and
- a participatory *Theory of Change workshop* held in January 2016 with BIS, the Newton Central Team, BIS Regional Managers and representatives from UK delivery partners.

These activities ensured that the evaluation team had a comprehensive understanding of *who* is involved in the Newton Fund, *what types of change* the Fund is aiming to achieve and under *what contextual circumstances*. The feedback and suggestions obtained from this research process are reflected in the Theory of Change presented in this report. This includes **a narrative to accompany the diagram** (Figure 4) to explain the different stages of logic and the array of different outputs, outcomes and impacts that the Fund is seeking to achieve.

The Theory of Change diagram for the Newton Fund is designed to cover the entire fund, including sub-theories of change for each of the pillars of activities which together form the Newton Fund. It is important to emphasise that **these pillars are not entirely separate, but rather work simultaneously and that synergies are expected**. This interdependence is represented graphically but also explained in the narrative that follows, using 'Theory of Change' key terms (Table 2).

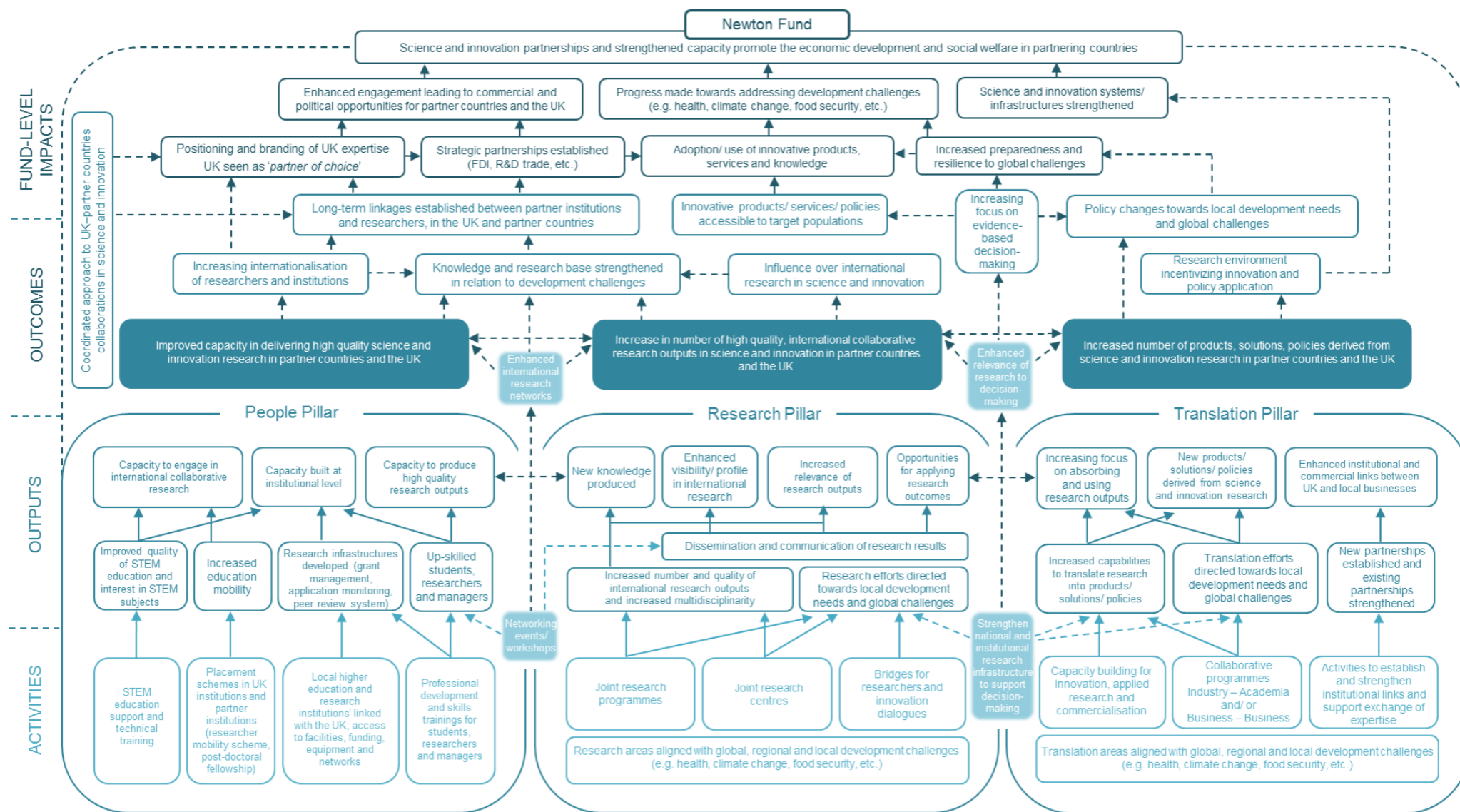
Table 2. Key terms used to describe the Theory of Change

Term	Definition
Activities	Activities funded by the Newton Fund and delivered / managed by UK delivery partners. Activities are grouped into themes for each pillar.
Outputs	Expected direct and measurable results of activities.
Outcomes	Intermediary results of the programme which are necessary to achieve the impacts of the Fund.
Fund-level impacts	The goals which the Newton Fund seeks to achieve, as part of the long-term vision of the Newton Fund.
Assumptions	Factors that may positively or negatively influence the sequence of events described by the narrative summary, <u>excluding</u> any external phenomena beyond the programme's control.
External factors	These are factors which are independent of the Fund which may jeopardise or impede the realisation of the desired (expected) outcomes and impacts.

Finally, the Theory of Change we present in this report is **not meant to represent each of the country-level strategies of the Newton Fund**: in some countries, parts of the programme-level Theory of Change may apply while others do not.

EVALUATION STRATEGY

Figure 4. Newton Fund Theory of Change



CAPTION

→ Strong evidence supporting linkages

- - - Weak/ no evidence supporting linkages

People pillar

Activities under the People pillar are **focused on developing human capital in order to create the appropriate skills and competencies base** to enable further partnerships to be established between the UK and partner countries. Four different types of activities have been identified during the Theory of Change development process:

- STEM education support and technical training;
- placement schemes in UK institutions and partner institutions (researcher mobility scheme, post-doctoral fellowship), such as the *Newton International Fellowship Scheme*, *Newton Research Collaboration Programme*, *Newton Mobility Grants* and *Researcher Links Travel Grants*;
- local higher education and research institutions' linked with the UK; access to facilities, funding, equipment and networks, such as *Researcher Links*; and
- professional development and skills trainings for students, researchers and managers, such as *Professional Development* and *Institutional Skills Development*.

It is expected that STEM education support and technical trainings will lead to an improvement in the **quality of STEM education** and increasing interest in STEM subjects in partner countries. Placement schemes aim to **increase education mobility** as well as **improving research skills**, through researcher mobility grants, scholarships and fellowships offered in a range of UK universities for PhD students, early and mid-career researchers.

Through access to professional development support and trainings, students and researchers, as well as university managers are expected to gain skills that can be applied in partner countries' research institutions (for instance, peer-review systems, research planning, online platforms, guidelines against plagiarism), thereby **improving research practices and processes** at various levels in local higher education and research institutions.

Additionally, access to and linkages with partner universities/ higher education institutions based in the UK are likely to facilitate **access to equipment, facilities and funding** across institutions, thus acting as a multiplier of research opportunities.

A key output of this set of activities is to build capacity at institutional level along with enabling participant researchers to **increase their engagement in international collaborative research** as a result of newly gained skills. It is expected that through improved capacity in delivering high quality science and innovation research, the People pillar will lead to the **production of higher quality research outputs** and contribute to **new knowledge produced** across the Fund as a whole.

A number of assumptions and risks have been identified by Newton Fund stakeholders during the Theory of Change development. Among those, there is the possibility that UK and partner countries' researchers are not **made aware of opportunities for partnerships and capacity building schemes** within the Newton Fund. It is assumed that researchers and institutions will be aware of the range of schemes and calls for collaborations, and that they will manage to identify the appropriate partners to apply for those and subsequently participate in capacity building activities.

Another aspect which has been identified as key to the success of the People pillar is the extent to which researchers and individuals working in or with the UK will want and have the capacity to **continue interaction and engagement** with partners overseas after the activities are completed.

Additionally, it is assumed that mobility scheme participants for instance will **return to their home country and contribute locally to improving research**. Depending on each individual situation and the capacity of the home country to provide attractive opportunities to qualified researchers, this assumption may not be realised.

Finally, without sufficient investment and infrastructures in place to support participation in the Newton Fund, it is unlikely that participants will be able to act on the information or trainings they receive, and improve their research skills in a sustainable way.

Research pillar

Like all Newton funding activities, activities falling under the Research pillar are all required to **align with global, regional and local development challenges** (e.g. health, climate change, food security, etc.) in order to qualify for ODA funding. The aim of this pillar is to identify and address specific challenges faced in the partner countries, or in other parts of the world **where UK–partner country collaborative research can make a difference on a regional or global scale**.

Activities under this pillar are expected to generate new knowledge and possible solutions to these local, regional and global challenges. They also enable the building of participant researchers and institutions' capacities as they gain new skills, are exposed to different ways of working, and enhance their familiarity with international research standards. Three different approaches to activity under the Research pillar have been identified:

- Joint research programmes, such as *Rice Research Initiative*, *Marine Development Feasibility studies* and *Earthquake without frontiers*;
- Joint research centres, such as the *UK-China Joint Centre on Probiotic Bacteria* or the *Centre for Research on Avian Diseases*; and
- Bridges for researchers and innovation dialogues.

It is anticipated that these activities will **increase the number and quality of international research outputs**, as well as their multidisciplinary. Through the production of new knowledge in relevant research areas (aligned with the Newton Fund objectives for economic development, and social welfare in partnering countries) and its collaborative approach, the **visibility**, **relevance** and **opportunities to apply** research outcomes are likely to be enhanced.

An example of a research programme underway is the *Rice Research Initiative*. This essentially takes the form of grants for collaboration between researchers in the UK and one or more of the following countries: China, Vietnam, Thailand and the Philippines. This is a qualifying area for research because in Asia, where 90% of rice is consumed, ensuring there is enough affordable rice for everyone, or rice security, is equivalent to food security. The establishment of collaborative research projects between the UK, China and south east Asian countries should therefore lead (via an increase in the number and quality of research outputs) to new knowledge within this topic area.

A number of assumptions have been identified by Newton Fund stakeholders during the Theory of Change development. Among those, there is a **requirement for research outputs generated to be of publishable quality** to ensure dissemination and trust in the communicated findings.

This assumes in turn that researchers in the UK have the **capability and capacity** to work in relevant areas of interest in partner countries. Additionally, activities under the Research pillar require research to be truly collaborative (i.e. not just separate pieces of research), otherwise the quality and relevance of internationally co-authored work may be weakened. That institutions (not just individuals) collaborate, while not a pre-condition for individual research projects, will be necessary to ensure the *sustainability* of institutional linkages.

According to the literature review conducted by PACEC during the Inception Phase, research shows that **international collaboration does appear to increase research output, prestige and resources**, although possibly at the expense of purely national research. Increased research productivity has been shown in HEIs that are engaged in cross-border collaborations – usually measured in terms of increased numbers of internationally recognised publications.

There is also some research suggesting that these improvements are not seen to the same extent in **resource-poor institutions in developing countries**, and it will be important to investigate the extent to which the benefits from Newton funding accrue in partner countries.

Finally, a key risk relates to the **availability and quality of dissemination channels** (in the UK, in partner countries and globally). Without effective communication of research outcomes, the opportunities for applying research solutions to local, regional and global issues will be lessened.

Translation pillar

The aim of the Translation Pillar is to support and bring together the local expertise of researchers in partner countries and in the UK through the development of collaborations between academia and industry or businesses to businesses to **ensure that innovative research has a route to the policy arena or the market (via commercialisation)**.

The types of activities under the Translation Pillar have been organised into three categories:

- Capacity building for innovation, applied research and commercialisation, such as the *Leaders in Innovation Fellowships Programme*¹⁶;
- Collaborative programmes, Industry–Academia and Business–Business, such as the *Higher Education Partnerships Programme (HEP)*¹⁷, *Collaborative Industrial R&D* and *Institutional Links*; and
- Activities to establish and strengthen institutional links and support exchange of expertise, such as *Institutional partnerships*.

Capacity building activities aim to foster a **favourable institutional environment for local innovation**. For example, the scheme *Scoping the innovation training needs of policy makers in the Pacific Alliance* and the *Leaders in Innovation Fellowships Programme* should directly enhance the capacity of people and organisations to undertake and release innovative research more effectively. This is likely to raise attention to **absorbing and using research outputs in general**, thereby contributing to the development of new products/ solutions/ policies derived from science and innovation research.

In addition to increased capabilities to translate research into products/ solutions/ policies, it is expected that **new partnerships** will be established and existing partnerships strengthened. Under the right set of circumstances, this should lead to the creation of enhanced institutional and commercial **links between UK and local businesses**.

An example of a programme underway which aims to support the commercialisation of research is the *Collaborative Industrial R&D Programme* which is being rolled out in a range of partner countries. In Mexico, the programme provides competitive collaborative industry-led grants to **stimulate innovative commercial solutions to socio-economic challenges** Mexico is facing, where UK has strengths.

A number of risks and assumptions underpin the Translation pillar and its expected results. Mostly, it appears that investment in public research institutions, in the developed and in the developing world, has been shown to generate numerous pro-poor technologies, particularly in health and agriculture. However, there are many **cases of technologies that have been inefficient or not led to desired development goals**. One common problem in the product development of pro-poor technologies is that it is difficult to engage end-users in developing countries for developing a successful product, due to “*logistical, cultural, language, and other challenges*”¹⁸. Additionally, it is crucial that the **policy environment** (including intellectual property arrangements) is supportive of efforts to commercialise ideas.

Beyond commercial translation, it is recognised that **some research will not be relevant to markets**. **Policy translation** is also an important aspect of the Translation pillar, as illustrated for instance by the Met Office’s programme *Weather and Climate Science for Service Partnerships* in China (detailed below). Similarly, while the RAEng’s *Innovation Node: Sustainable Manufacturing*¹⁹ will likely have an effect on the commercial landscape, the aim of the initiative is more related to policy change rather than commercial gain.

¹⁶ Training, support and international networking for outstanding researchers in commercialising their technology.

¹⁷ Higher Education Partnerships are strong and structured partnerships between higher education institutions and locally based industry, focused around bilateral academic and industry exchange placements.

¹⁸ Boettiger, S., & Alvarez, S. (2010). “Getting Better Technologies to the Poor: A Landscape of Commercialization Challenges & Opportunities.” Davis, California: PIPRA.

¹⁹ Strategic Policy Dialogue on Technology Foresight and Sustainability in Manufacturing and Industry.

Synergies between pillars

As previously mentioned, not all activities fall exclusively under one pillar. Some activities are designed to bridge the pillars, to encourage synergies or might be seen as precursors to other work.

For instance, a cross-cutting activity of the People and Research pillars relates to networking events and/ or workshops (*Researcher Links*, *Researcher Connect Workshops*) which are intended to support the development of linkages between researchers working in the UK and partner countries, **in support of future collaboration**.

A concrete example of this type of activity is a scheme set up in the Philippines, run by the British Council, which involves grants for workshops in priority research areas defined at a country level. These grants allow UK and partner country researchers to share their research and establish relationships for longer term collaboration. The workshops must have **a focus on capacity building** (People pillar) and **on establishing potential collaborations** (Research pillar), and therefore go beyond traditional workshop formats solely focused on sharing research outputs. They target early career researchers from both countries to facilitate building relationships at a point in their careers with maximum impact over their lifetime.

The Research pillar also encompasses **capacity building aspects more generally and systematically**. When funding a research project, a large spectrum of individuals is involved, from the Principal Investigator to a wider network of PhD students. This implies that many of the 'indirect' participants under the Research pillar will be exposed to new ways of working, new skills and will likely travel as part of the research project, thereby contributing to building their capacity and enhancing their experience to conduct further research.

Finally, an example of cross-cutting activities of the Research and Translation pillars relates to the idea that some **commercialisation activities are designed to be led by researchers while others by industry partners**. For instance, the Met Office's programme *Weather and Climate Science for Service Partnerships* in China is delivering research and knowledge support to facilitate the development of prototype services for specific sectors (e.g. water resources and energy) to be used by local decision-makers.

As such, activities aiming to strengthen national and institutional research and infrastructure to support decision-making **encompass different aspects of Research and Translation**. A similar programme in South Africa is helping improve South Africa's national weather modelling infrastructure (Research) to develop more accurate forecasts and early warning systems for a range of users, including but not limited to policy makers (Translation).

Outcomes and Fund-level impacts

The changes brought by the different pillars come together at the outcome and impact levels. As part of the Theory of Change development process, Newton Fund actors have emphasized the range of different **steps which are still required at this level** to get to a situation in which "*science and innovation partnerships and strengthened capacity promote the economic development and social welfare in partnering countries and address the problems of poor people around the world*".

Among those, a key result expected of the Newton Fund is the creation of a **knowledge and research base in relation to development challenges**, which will likely arise from the People and Research pillars, from enhanced international research networks, but also from an increased internationalisation of researchers and institutions (skills, ways of working, enhanced familiarity with international research standards) and from the newly gained influence of partner countries over international research in science and innovation, suggesting a stronger focus on their national priorities and local development challenges.

These aspects are crucial to the establishment and sustainability of **long-term linkages** between partner institutions and researchers, in the UK and partner countries. If successful, it is expected that the Newton Fund delivery model - , a coordinated approach between UK Delivery Partners to collaborations in science and innovation establishing with UK partner countries- will enhance this collaborative process by giving a more clear understanding of the **UK funding landscape** and research expertise to partnering countries.

The resulting **positioning and branding of UK expertise** is a strategic aim of all UK delivery partners. In their words, it corresponds to partner countries seeing the UK as a '*partner of choice*'. As such, one of the Newton Fund key 'intermediary' objectives is (UK expertise) branding itself, the Fund being an adequate opportunity to showcase the capabilities and resources of the UK with new partners.

Later on, one can expect this to lead to **new strategic partnerships** (FDI, R&D trade, etc.), as well as enhanced **engagement leading to commercial and political opportunities** for partner countries and the UK.

A key objective of the Fund remains to make **progress towards addressing development challenges** (e.g. health, climate change, food security, etc.). To achieve this, it is expected that new products, solutions, policies derived from science and innovation research in partner countries and the UK will:

- lead to **evidence-based policy changes** towards local development needs and global challenges;
- lead to the **access and adoption/ use** of innovative products, services and knowledge by relevant populations when and where needed; and
- eventually lead to **increased preparedness and resilience** to global challenges, as well as promoting economic development and social welfare in partnering countries.

Through these processes, a final outcome of the Newton Fund will likely relate to the strengthening of science and innovation systems/ infrastructures in partner countries, thereby creating research environments incentivizing innovation and policy application.

According to the literature review, the **level of R&D investment** in low income countries has a significant correlation with national total factor productivity. Studies suggest that R&D in public institutions “*has a large effect on productivity growth*”, although higher education research and university–business collaborations are highlighted as examples of factors that influence the scale of productivity gains. The causal link is strong and appears to be the same for both developed and developing countries.

However, there are a number of **constraining factors**, including bureaucratic and organisational issues, unequal capacities, lack of support for champions, compromised staff buy-in, conflicting institutional aims, conflict between donor aims and local leadership, lack of sustainability and different perceptions of success.

With regards to welfare and poverty, our search of literature on the value of collaborative research finds that there is little if any research in the context of developing countries that quantifies the impacts that innovation collaboration has had on areas such as poverty. Government bodies in the UK often have measures on Gross Value Added (GVA) results from collaboration, but **in developing countries, the measurement of impacts on poverty is scarce.**

External factors

In relation to the **external factors likely to affect the delivery of activities, outputs and outcomes** across the Fund, Newton Fund stakeholders identified the following aspects as part of the Theory of Change workshop:

- perception of ODA presents a risk in some countries which do not wish to advertise Newton funding as international aid;
- lack of complementarity of private and public sector co-investment;
- risk of macroeconomic shocks, e.g. oil prices and exchange rate fluctuations, which can impact the ability of partners to secure the required match funding;
- capacity of the Newton Fund to engage with other UK-funded programmes such as the Global Challenges Fund and the Prosperity Fund may affect the overall impact of the UK aid strategy;
- global (in)security and regional (in)stability could endanger the continuity of international collaborations;
- changes in UK and/ or in-country delivery partners’ priorities and capabilities may impact on success and overall direction; and
- the availability of other, non-UK, more attractive offers for collaboration.

This list evolves with the implementation of the Newton Fund, and external factors are monitored as part of the evaluation to **understand their potential and actual impacts** on the realisation of the objectives of the Fund.

1.2.5 Issues of equity, poverty and exclusion addressed by the Newton Fund

In terms of impact at fund-level, it can be expected that the Newton Fund will address the needs of end beneficiaries in relation to equity and poverty (as stated in the goal of the programme, “*address the problems of*

poor people around the world"). **End beneficiaries** are defined as those who will benefit from a reduction in poverty and/ or economic development in developing countries, as per the Newton Fund ODA guidance note²⁰.

However, while all activities need to demonstrate that they are aiming to contribute to a reduction in poverty, and aim to further sustainable development (development that is likely to generate lasting benefits for the population of the country to which it is provided) or improve the welfare of the population of Newton Fund countries, the issues of equity, poverty and exclusion addressed by the Newton Fund are **not obvious at the more direct output and outcome levels**.

The Newton Fund targets researchers, research teams, institutions/ departments, policy makers and businesses in both UK and partner countries, **without specific eligibility criteria in relation to equity, poverty and exclusion**. Each scheme or call has its own list of criteria defining which institutions, groups or individuals are eligible to apply, but these criteria tend to focus on research capacity, partners identification, affiliation, past research or qualifications.

In terms of gender equity, the evaluation team has not found evidence (to date) of specific actions or policies aiming to pro-actively engage women in Newton Fund activities.

1.3 Purpose and scope of the evaluation

1.3.1 Purpose

The overall aim of the evaluation is to establish whether the goal of the Newton Fund – to develop science and innovation partnerships that promote the economic development and welfare of partner countries, and to address the problems of poor people around the world – is being **delivered**, and whether it is being delivered in a way that represents **value for money**.

The Request for Proposal specifies the following purposes for the evaluation:

- to ensure that BIS has the evidence to demonstrate whether the Fund has represented value for money in promoting economic development and welfare in partner countries (**accountability**);
- to allow BIS, the delivery partners and country teams to learn, respond to and encourage approaches which are already working in delivering the Newton Fund goals (**internal lesson learning**);
- to help all participants identify and expand on successful outcomes as examples of effective collaboration (**external lesson learning**);
- to act as an evidence base and highlight key learning on the Newton Fund as a whole for other development agencies including DFID on the delivery and impacts of the Fund (**internal and external lesson learning**); and
- to inform future decisions on the design and implementation of current and future capacity building programmes (**external lesson learning**).

1.3.2 Scope

The scope of the evaluation contract according to the Request for Proposal is “*to determine the extent to which the Newton Fund has, or will, contribute to actual or potential increases in economic development and welfare, and reductions in poverty in partner countries or through addressing the problems of poor people around the world*”.

The scope of the evaluation also covers:

- **structural capacity and sustainability aspects** – that is, whether absorptive capacity and countries’ abilities to address their development needs are sustainably improved by Newton Fund programmes;
- **political, social and commercial linkages** – that is, whether the UK’s bilateral relationships with partner countries have sustainably changed as a result of the Newton Fund, in terms of science and innovation activities as well as collaboration and trade, and the beneficial impacts that are, or will be, accruing as a result of these changes, including any impacts from the Newton Fund brand;

²⁰ <http://www.newtonfund.ac.uk/about/what-is-oda/>

- **quality of activities** – that is, the level of quality of the activities funded in capacity, research and translation/ innovation;
- **comparative impacts** – that is, whether there are any differential impacts across the countries involved; and
- **aspects of the delivery process** – that is, whether the processes utilised by the Newton Fund are fit for purpose, which elements in the Newton Fund programmes that worked well along with recommendations to improve the Fund.

It is important to note that this evaluation of the Newton Fund is focused on programme-level impacts, and therefore **excludes individual performance reviews of Newton Fund delivery partners or grantees**.

Evolution of the scope of the evaluation

The scope of the evaluation has evolved through discussions with BIS and the Newton Central Team during the Inception and Initial Analysis Phases. Given the need to deliver several stages of the evaluation over a four-year period, covering multiple strands of activity across multiple countries, our proposal was limited to in-depth qualitative research in a sample of eight countries, and relied on online methods to gather quantitative data across all 15 partner countries.

During the Inception Phase, based on different assumptions regarding the resources available for the evaluation, we identified some additional tasks we considered essential to the evaluation, which we presented in the Inception Report, alongside additional options to add depth and breadth to the evaluation. It was agreed with BIS, after decision from the Newton Fund Board, that the following be included:

- **telephone surveys with beneficiaries at midline and endline focused on a sample of eight countries** – to provide greater depth of analysis than afforded by online surveys;
- **endline phone survey with UK beneficiaries** – to expand the depth of the analysis of benefits to the UK;
- **monitoring review** – to identify the gaps in monitoring data systems among delivery partners and in-country teams, and to assess the options for harmonisation of data collection processes; and
- **in-depth focus on a sample of eight countries** – through thematic impact studies; covering Brazil, China, Egypt, India, Mexico, the Philippines, South Africa and Turkey. The choice to focus on eight countries (versus all countries) was made by the Newton Fund Board as it provided a breadth of coverage across partner countries while managing the overall cost of the evaluation.

Focus countries

The choice of the specific countries to be covered by the in-depth evaluation was made on the basis of a mix of countries to **ensure coverage of all regions**, but more importantly to ensure broad coverage in terms of the **existing innovation capacity and infrastructure** of the partner countries. Successes, timeframes for realisation of impacts, and the nature of interventions can be expected to vary significantly depending on the initial starting point of each partner country.

We therefore proposed a mix of countries to BIS, chosen to reflect different levels of existing capacity as defined by the 2015 Global Innovation Index rankings. This categorisation also aligned with the early work undertaken by the Newton Fund on categorisation of innovation excellence to ensure coverage across these categories (refer to [Table 1 in Section 1.2.2](#)).

[Table 3](#) summarises the status of all 15 partner countries on these rankings and the Newton Fund categorisation. The countries suggested for inclusion in the in-depth qualitative analysis for the evaluation are highlighted in **bold**.

Table 3. Proposed focus of in-depth evaluation research

Partner country	Region	2015 Global Innovation Index Ranking (of 141)	Newton Fund Categorisation
China	Asia Pacific	29	Tier 1
Malaysia	Asia Pacific	32	Tier 2
Chile	Americas and Egypt	42	Tier 2
Vietnam	Asia Pacific	52	Tier 3
Thailand	Asia Pacific	55	Tier 2
Mexico	Americas and Egypt	57	Tier 2
Turkey	Europe, Russia, Middle East and Turkey	58	Tier 1
South Africa	India and Sub-Saharan Africa	60	Tier 1
Colombia	Americas and Egypt	67	Tier 3
Brazil	Americas and Egypt	70	Tier 1
India	India and Sub-Saharan Africa	81	Tier 1
Kazakhstan	Europe, Russia, Middle East and Turkey	82	Tier 3
Philippines	Asia Pacific	83	Tier 3
Indonesia	Asia Pacific	97	Tier 3
Egypt	Americas and Egypt	100	Tier 3

Source: The Global Innovation Index 2015, Cornell University, INSEAD and the World Intellectual Property Organization.

Approved by BIS in December 2015, the list of countries highlighted provides a spread of coverage across the Innovation Rankings and coverage across the various Newton Fund tiers

1.3.3 Target audience, key stakeholders and other donors

Throughout the Inception and Initial Analysis Phases, we have engaged with internal and external stakeholders. The following provides a summary of stakeholders identified and consulted:

- **Newton Central Team:** consulted throughout the Inception and Initial Analysis Phases.
- **UK delivery partners:** Academy of Medical Sciences; British Academy; British Council; Innovate UK; Met Office; Royal Academy of Engineering (RAEng); Royal Society; Research Councils UK (RCUK); Arts and Humanities Research Council (AHRC); Biotechnology and Biosciences Research Council (BBSRC); Economic and Social Research Council (ESRC); Engineering and Physical Sciences Research Council (EPSRC); Medical Research Council (MRC); Natural Environment Research Council (NERC); Science & Technology Facilities Council (STFC); interviewed as part of the Initial Analysis Phase and engaged through workshops.
- **In-country teams:** All Newton Fund countries teams (Brazil, Chile, China, Colombia, Egypt, India, Indonesia, Kazakhstan, Malaysia, Mexico, Philippines, South Africa, Thailand, Turkey and Vietnam)

including Singapore regional hub team for South East Asian partner countries; interviewed as part of the Initial Analysis Phase.

- **Other Newton Fund actors:** In-country local funders, grant holders (researchers, teams, universities), businesses and innovation hubs, policy makers; consulted as part of the in-country visits (Mexico, China, Thailand).
- **End beneficiaries:** Individuals or groups receiving the benefits from the development of new products/ solutions / policies as a result of the Newton Fund. These have not been consulted yet, and will be identified as the Fund progresses towards delivering tangible results.
- **External stakeholders:** SIN officers in Newton Fund countries; FCO; DFID; ministries of science/ innovation in partner countries; consulted as part of the in-country visits (Mexico, China, Thailand).

The immediate recipient of this assignment is **BIS (primarily the Newton Central Team)**, but there are broader benefits for other stakeholders working on the Newton Fund, including but not limited to the UK delivery partners, local delivery partners, in-country teams, funding agencies, research institutions, local governments, non-participant countries and others beneficiaries and stakeholders in the science and innovation sectors.

Given the geographical and sectoral scope of the Newton Fund, **the programme shares space with a variety of donors and other programmes**. As the evaluation will use contribution analysis as an approach to analysis, it is important for the evaluation team to be aware of other donors/ programmes working in the same space as the Newton Fund which may be contributing to the outcomes observed.

In addition to developing a list of other donors and programmes through desk-based research (conducted by PACEC), we asked interviewed stakeholders (in-country teams, mainly) to identify other actors working in the same space as the Newton Fund in partner countries. [Table 4](#) presents a (non-exhaustive) list of those donors and programmes, along with their comparability/ complementarity with the Newton Fund.

Table 4. Donors and programmes working in the same space as the Newton Fund

Donors/ programmes	Description	Comparability to the Newton Fund
UK Prosperity Fund	<p>The Prosperity Fund is the FCO's dedicated annual fund supporting prosperity work overseas. In 2015, the Strategic Defence and Security Review announced a £1.3billion Prosperity Fund over the next 5 years to promote the economic reform and development needed for growth in partner countries. It will include improving the business climate, competitiveness and operation of markets, energy and financial sector reform, and increasing the ability of governments to tackle corruption.</p> <p>The fund has multi-year programmes in emerging market partner countries with a focus on activities to facilitate economic reform. The end results are opportunities for UK businesses and a reduction in poverty in partner countries.</p> <p>In 2016 the current round of projects involves the partner regions of Mexico, Chile, Brazil, Southern Africa, Colombia and Southeast Asia. The Fund seeks to contribute toward the Sustainable Development Goals and receives ODA funding.</p>	<p>High. The fund is over a five-year period and the programme receives ODA funding. All of the partner countries in the first round of projects are Newton Fund countries.</p> <p>Although the focus is different in being on economic reform instead of research, the projects seek to build indigenous capacity and aim to improve economic development.</p> <p>The funding rounds and structure appear to be similar to Newton Fund management, with project bids submitted to embassies or high commissions.</p>
UK Global Challenges Fund	<p>The Global Challenges research fund of £1.5 billion over the next five years was introduced in 2015 to ensure UK science takes a leading role in addressing the problems faced by developing countries. It is expected to harness the expertise of the UK's world leading research base to strengthen resilience and response to crisis.</p>	<p>Potentially high. <i>Although details about how the fund will operate have not been made public yet.</i></p>

Donors/ programmes	Description	Comparability to the Newton Fund
	Funding includes support for research on challenges like beating antimicrobial resistance and protecting animal and plant health, and emerging viral threats in developing countries.	
USAID Development Innovation Ventures	Development Innovation Ventures (DIV) is an open competition supporting breakthrough solutions to the world's most intractable development challenges – interventions that could change millions of lives at a fraction of the usual cost. Venture capital funding model (stage financing), \$25m focused on India, Brazil, Philippines and Africa. They supply seed funding for unproven ideas and continue the funding if the concept demonstrates that it works.	Low. Focus on 'pro-poor technologies' is present but no focus on research capacity building, human capital development or cross-country partnerships.
USAID Global Development Partnerships	Public-private partnerships model supporting scalable innovation . Intersect of USAID development goals with local business interests. \$19bn in public-private leverage since 2001 across all USAID regions.	Medium. Partnership focus is on private-public partnerships for commercial products.
USAID Grand Challenges for Development	Driven by policy challenges and based around two pillars: S&I is a critical ingredient in socioeconomic development; and international collaborations are critical to achieving developmental solutions. A number of projects are jointly delivered with DFID.	Low. Focused on 'challenges' e.g. water security, similar to Newton's strategic focus.
USAID Higher Education Solutions Network	Through HESN, USAID has created a constellation of eight Development Labs in the US and Africa that harness the ingenuity and passion of university students, researchers and faculty to incubate, catalyse and scale new science and tech-based solutions to the world's most challenging development problems . \$137m over 5 years. Network and exchange partners in more than 60 countries.	Medium. Institutional and organisational collaboration.
USAID International Research and Science Programs	Partnerships for Enhanced Engagement in Research (PEER) is a research grants program in which developing country scientists partner with U.S. government-supported researchers . PEER supports researchers in PEER-eligible countries in building and enhancing scientific capacity to address large, complex development issues. \$28m in 40 developing countries.	High. Research capacity building to alleviate poverty. Deepening of institutional and organisational linkages.
EU Horizon 2020	Horizon 2020 is the European research funding programme for 2014–2020, with a budget of €80 bn. Its main strapline is "Open to the World", with a particular emphasis on collaborations including researchers in developing countries .	Medium. Particular emphasis on collaborations including researchers in developing countries. All countries are eligible.
GIZ Promoting innovation and technology in ASEAN countries	The German government, through GIZ funding, is implementing a programme that aims to improve the institutional environment for innovation in ASEAN countries . The programme aligns with the ASEAN Plan of Action on Science and Technology (APAST) by directly implementing two APAST activities: framework for co-operation with private sector in promoting innovation; and identification of joint projects that promote innovation.	Medium. Similar approach on innovation aspects such as technology commercialisation and R&D collaboration, although the focus is more on SME development instead of research capacity building.

Donors/ programmes	Description	Comparability to the Newton Fund
		All ASEAN countries are eligible.
SIDA Innovations Against Poverty	<p>The Innovations Against Poverty programme is a 'risk sharing mechanism' that works with innovative companies that have potential to reduce poverty through their activity and are based in developing countries.</p> <p>Companies can apply for support at different stages of the innovation development path: e.g. small grants (up to €20k) to test new innovations, large grants (up to €200k) to bring an innovation to a wider market.</p> <p>Around 83m SEK allocated (£6.75m). Most applicants from sub-Saharan Africa, Egypt and India.</p>	Medium. The focus is on innovative pro-poor technologies rather than capacity building on research.
SIDA Support to innovation systems and clusters	<p>The Swedish government has a national strategy on research co-operation for economic development (2015–2021), through the SIDA aid agency. In 2012 it published an independent evaluation of ten intervention programmes, which fall into four themes: biotechnology projects with support for research capacity; policy research networks (including Globelics); experiments in 'stakeholder approach' on innovation in Nicaragua; network experiment on 'triple helix' approach to research clusters in Africa.</p> <p>The activities that were evaluated took place between 1997 and 2011 and have informed the current SIDA strategy on innovation support. Most of the projects were assessed as effective in improving government policies and local innovation capacity.</p>	Medium. Strong focus on innovation clusters and capacity in developing countries.
SIDA Globelics and its associated 'regional chapters'	<p>The Global Network for Economics of Learning, Innovation, and Competence Building Systems (Globelics) programme has been active since 2001 and receives funding from SIDA and Denmark's Aalborg University. Globelics is an international network of more than 2,000 scholars with the main purpose of greater competence building in innovation in developing countries.</p> <p>Activities include annual international conferences that fund young scholars and scholars from developing countries to contribute, as well as the Globelics academies. The Globelics Academy offers training to young PhD students and links to global networks.</p> <p>There are now 'regional chapters' based in certain world regions, e.g. Africalics in Africa, Asialics in Asia, CICALICS in China. The regional bases do region-specific networking and capacity building.</p>	High. There is a strong emphasis on 'North–South' collaboration on research and the activities have a regional focus which aims to tackle local development challenges.
Strategic International Research Cooperative Program (SICP) and Strategic International Collaborative Research Program (SICORP)	<p>SICP funds Japanese researchers who are collaborating with overseas researchers funded by their own countries. Cooperation is underway with countries in Europe, America, Oceania, Asia, the Middle East, and Africa.</p> <p>SICORP is similar but aimed specifically at projects aiming to develop solutions to challenges facing the world today. Projects are in place with the USA, Canada, Europe, Germany, France, China, and Korea.</p>	Medium. Co-funded research collaboration including some developing countries, challenge-based projects under SICORP have some relevance to poverty reduction.

Donors/ programmes	Description	Comparability to the Newton Fund
National Competitive Grants Programme	Australia funds international collaboration through the Australian Research Council's National Competitive Grants Programme . From 2011–2015 the UK was the second most frequent collaborator (15% of international grants, after the USA with 24%). There are also Discovery International Awards and Discovery Early Career Researcher Awards. The Centres of Excellence programme includes collaborations with 44 countries. Performance is monitored for the ARC as a whole.	Low. Research collaborations funded by competitive grant. No particular focus on developing countries or poverty reduction.

In Europe, the European Commission is promoting research and innovation projects in developing countries through the multi-billion euro **Horizon 2020 initiative** (EU Framework Programme for Research and Innovation). With a particular emphasis on collaborations including researchers in developing countries, although not directly providing capacity building, this initiative is closely related to the Newton Fund, and its results will be monitored as part of our mapping of contributing factors to the Newton Fund objectives.

Where these programmes have similarity to Newton or are working closely with Newton, we have looked for evaluation reports. Several of the programmes are too recent to have undergone evaluations, however, useful evaluations were found for the EU Framework Programme, and SIDA's NIR and Globelics programmes.

A key problem highlighted in these reports is that, where there are delays in implementing a programme or its component projects, impacts can occur too late to be picked up by evaluations, or the project funding can end before the impact is achieved. More broadly, the recommendations from these evaluations which can usefully be applied to the Newton Fund include:

- Excessive complexity and compartmentalisation between funding streams leads to inefficiency, and prevents synergies with other programmes;
- Clear strategic vision and ownership of activities are both vital;
- Project impacts depend strongly on local conditions. Applicants and project selection committees need guidance on the likely impacts on the poor in different countries. Applicants should be encouraged to consult closely with stakeholders to be aware of local conditions, for example, gender issues;
- Developing country scientists should be included on project selection panels, and should be given training on the effects of local conditions in different countries;
- UK researchers need training and mentoring on working in other countries. Younger trained researchers will be needed as the current generation retires;
- Networking opportunities should be funded for grantees to encourage partnership growth as a prelude to future collaborations; and

Grants tend to run out before successful projects have completed large-scale testing, pre-empting impacts. Grants for promising projects should be extendable, or grantees should be helped to find alternative sources of follow-up funding.

2 Evaluation approach

This section outlines our understanding of the key considerations to account for as we design the evaluation of the Newton Fund and presents the approach we intend to follow. It is consistent with our Initial Proposal and Inception Report but has been informed and **updated based on the consultations we held with the Newton Central Team and UK Delivery Partners** during the Inception Phase, as well as the familiarisation exercise and in-country visits carried out during the Initial Analysis Phase, and discussions with the Expert Evaluation Advisory Group.

2.1 Key considerations

Based on the information and analysis carried out to date, we present the key principles for the Newton Fund evaluation. Considerations that have influenced the choice of evaluation design are detailed in [Table 5](#).

Table 5. Key considerations and implications for evaluation design

Categories	Considerations	Implications
Donor focus/ attribution	Importance of assessing impact at fund-level ²¹ Evaluation scope excludes individual performance reviews (partners or grantees)	Suggest assessing the high-level impacts of the programme on beneficiaries , (refer to Section 2.3)
Newton Fund design	Complex pathways of change of the programme , both in the interactions between its pillars and the specific local contextual factors that influence those interactions Expectations for synergies between pillars	Suggest to adopt a Theory-based evaluation design , in order to elaborate and test the programme and pillar-level mechanisms of change Suggest using Contribution Analysis to assess the factors that contribute to the realisation of impacts across the Fund
Tracing diffuse impact and opportunities for longer term impact	Achieving constructive change and developing sustainable expertise in science and innovation to address development challenges is a multi-staged process , the benefits of which may only be seen in the longer term	Suggest to conduct Thematic impact studies to map out the pathways of change and capture early signs of impact, as well as any spill over effects for indirect beneficiaries in participating universities or research institutions
Newton Fund delivery structure	Newton Fund delivery structure across 15 delivery partners, 15 countries and local funding partners	Suggest to conduct a Process Evaluation assessing the delivery of the programme at mid-term in order to take corrective measures and apply lessons learned before the end of the programme Also suggest to carry out a VfM assessment to assess whether the programme is being delivered in a way that represents value for money
Multiple M&E actors	Diverse nature of delivery partners M&E activities due to the multi-country and multi-pillar structure of the Newton Fund Difficulty of comparing monitoring data and evaluation findings across projects; necessity of verifying monitoring data	Suggest to provide recommendations for harmonising monitoring systems across partners/ M&E actors (delivery partners, in-country teams, local partners, etc.) through a common monitoring system
M&E actors' capacities/ resources	Monitoring requirements and potential burden on delivery partners, in-country teams or grant holders , recognising that projects may often be required to collect robust evidence with limited/ no allocated resources	Suggest to produce a programme-level evaluation that does not solely rely on partners' monitoring and evaluation data ; our team will be collecting its own primary data
Newton Fund timeline	Staged nature , different timescales and different capacity for absorbing funding	Suggest to have a flexible evaluation methodology to allow for the different timeframes of delivery

²¹ Refer to RFP, in [Annex 1](#).

Categories	Considerations	Implications
		partners, changes in country strategies, and potential countries added in the Fund

2.2 Evaluation questions

Table 6 details our proposed evaluation questions. These questions were adapted from the RFP in light of the evidence gaps identified as part of the literature review conducted during inception, consultations with delivery partners and discussions with the Newton Central Team. The evaluation questions are structured following the OECD-DAC criteria, and were further refined during the Initial Analysis Phase upon completion of the Newton Fund Theory of Change.

Table 6. Evaluation questions

DAC criteria	Evaluation questions	Mapping to Theory of Change and indicators
Relevance	Are the activities and intended outputs of the Newton Fund consistent with the intended outcomes and impacts and supported by existing evidence?	Capacity (1), knowledge production (2), and products, solutions, policies derived from science and innovation research (3) are supported by relevant activities Key indicators: Number of intended beneficiaries and characteristics; Number of targeted beneficiaries reached; Evidence of rationale for planned activities
	Did the Newton Fund target, reach and benefit its intended beneficiaries? Are there gendered differences in terms of benefits realised?	Characteristics of up-skilled students, researchers and managers in partner countries Key indicators: Proportion of beneficiaries – who could not have secured funding otherwise – targeted and benefiting from Newton Fund activities; Proportion of women targeted
	Did the funded research activities target the economic development, welfare and poverty issues in partner countries? Were these research activities programmes that would not have happened otherwise?	Knowledge and research base are strengthened in relation to development challenges Policy changes are towards local development needs and global challenges Key indicators: Proportion of activities targeting welfare, economic development and/ or poverty issues; Proportion of activities which would not have happened otherwise
Effectiveness (mechanisms)	Have activities under the People pillar improved capacity building in science and innovation (for individuals and institutions)?	Improved capacity in delivering high quality science and innovation research in partner countries and the UK Increasing internationalisation of researchers and institutions Key indicators: Proportion of researchers gaining higher degrees; Number (and level, nationality) of researchers with access to improved facilities
	Have activities under the Research Pillar enabled successful research collaborations on topics relevant to the economic development and poverty reduction needs of partner countries?	Increase in number of high quality, international collaborative research outputs in science and innovation in partner countries and the UK Influence over international research in science and innovation Key indicators: Number of research collaborations contributing to economic development needs; Favourable feedback from stakeholders on poverty reduction effects
	Have activities under the Translation Pillar created collaborative solutions	Increased number of products, solutions, policies derived from science and innovation research in partner countries and the UK

DAC criteria	Evaluation questions	Mapping to Theory of Change and indicators
	to development challenges and strengthened innovation systems?	Adoption/ use of innovative products, services and knowledge Key indicators: Proportion of activities creating collaborative solutions to development challenges; Proportion of business/industrial collaborators/SMEs introducing innovations; Proportion of activities strengthening innovation systems
	Were new international partnerships created as a result of the Newton Fund? What is the value of these partnerships and how sustainable are they?	Long-term linkages established between partner institutions and researchers, in the UK and partner countries Positioning and branding of UK expertise UK seen as ' <i>partner of choice</i> ' Key indicators: Number of new international partnerships; Size of new international partnerships (number of partners); Value of new international partnerships; Sustainability of new international partnerships (funding, commitment)
	Has the Newton Fund helped improve the capacity and skills of UK researchers and innovators? What further opportunities has the Fund opened up for the UK science and innovation base?	Science and innovation systems/ infrastructures strengthened Enhanced engagement leading to commercial and political opportunities for partner countries and the UK Key indicators: Proportion of projects involving early career UK researchers; Proportion of projects supporting higher degrees earned by UK researchers; Number of new UK-partner country partnerships; Start-ups and spin-outs arising from given interaction
Effectiveness (processes)	How effectively is the Newton Fund being managed?	Key indicators: Proportion of milestones which have been met and/or adapted by management; Satisfactory monitoring procedures in place and routinely implemented; Outcomes of monitoring are satisfactory; Projects which overspend budgets; Countries which overspend budgets
	How effective are the Newton Fund mechanisms in administering funds?	
	Has the Fund driven a more joined up approach amongst delivery partners? What partnership arrangements between delivery partners work most effectively?	Coordinated approach to UK–partner countries collaborations in science and innovation Key indicators: Proportion of delivery partners reporting a more joined up approach; Proportion of delivery partners reporting effective partnership arrangements
	Is a strategy in place in relation to gender equality across the Fund?	Key indicators: Nature and content of the different gender strategies of partners; Existence of an overarching gender strategy; Evidence of guidance being followed at all levels (local partners, partner institutions, etc.)
	Is there effective sharing of information, experience and lessons learned between delivery partners?	Key indicators: Proportion of delivery partners reporting effective sharing of information; Proportion of delivery partners reporting effective sharing of lessons learned
Efficiency and value for money	Has the Newton Fund delivered good value for money?	Key indicators: Programme outcome unit costs vs. benchmarks from other programmes
	How much additional support (co-investment) from other sources did funding through Newton allow partner country researchers or businesses to leverage?	Key indicators: Amount of funds leveraged; Number of co-investors
Impact	What factors contribute to building absorptive science and innovation	Research environment incentivizing innovation and policy application Science and innovation systems/ infrastructures strengthened

DAC criteria	Evaluation questions	Mapping to Theory of Change and indicators
	capacity in partner countries? Are any countries benefiting more than others? If so why and what lessons might be learned?	Key indicators: Number of publications with one or more foreign author; Capacity for innovation; UK's rank as a destination for country's HE students; Qualitative nature of factors affecting capacity
	Is there a demonstrable link between Newton Fund activity and current or potential future poverty reducing economic development in the partner countries or more widely?	Increased preparedness and resilience to global challenges Increasing focus on evidence-based decision-making Progress made towards addressing development challenges (e.g. health, climate change, food security, etc.) Key indicators: Qualitative nature of links
	Is there any demonstrable sustainable impact on gender equality or environmental sustainability in the partner countries?	Policy changes towards local development needs and global challenges Key indicators: Women as a share of total researchers; Role of women in teams; Women gross enrolment in tertiary education; Value of green technologies from Newton-funded research
	Has the Newton Fund led to a change in perceptions of the UK in partner countries? Has this led to any benefits such as new or opportunities for collaboration and trade?	Positioning and branding of UK expertise UK seen as ' <i>partner of choice</i> ' Enhanced engagement leading to commercial and political opportunities for partner countries and the UK Strategic partnerships established (FDI, R&D trade, etc.) Key indicators: Proportion of researchers reporting barriers to research collaboration with the UK; Qualitative nature of barriers; Proportion of businesses reporting more commercial opportunities in partner countries; Estimated value of new commercial opportunities
	What additional or unexpected effects in partner countries or the UK have occurred as a result of Newton Fund activities?	Key indicators: Increase in productivity; High-skilled researcher jobs created; Improved commercial opportunities for UK businesses in emerging countries
Sustainability	What are the longer term impacts from the Newton Fund that can be anticipated beyond the evaluation period (post 2019)?	Research environment is incentivizing innovation and policy application Enhanced engagement leading to commercial and political opportunities for partner countries and the UK
	How well has sustainability (and the pre-conditions for sustainability) been factored into programme implementation from the beginning and with what actual and potential effects?	Key indicators: Qualitative expected impacts (with documented case studies); Quantification of specified expected long term impacts; Sustainability frameworks

2.3 Evaluation design

2.3.1 Choice of evaluation design

The Newton Fund involves a variety of different types of activities. Some are designed to have a **relatively direct effect** on target groups (e.g. scientists and businesses) in specific countries while other activities are designed to have a **less direct but more pervasive and widespread effect** (e.g. embedding an innovative culture in institutions and governments).

A purely counterfactual evaluation design using control groups will not be able to fully or accurately capture both types of programme effects, nor would it tell us whether and how it works – as explored in the [box](#) below. For

instance, where the Newton Fund aims for change in innovation infrastructure and policy making at a national level, there will be no true counterfactual scenario of what would have happened without its intervention.

With **no viable counterfactual options considered feasible and/ adding value**, it was agreed that additional emphasis will be placed on gathering beneficiaries' own assessment of additionality:

- For instance, under the Research Pillar, we plan to conduct a desk-based **review of funded versus rejected research applications**, which will allow us to establish what types of research are being funded (and where) and to assess the relevance and quality aspects of applications. This will give us the relevant background information with respect to the type of research funded and not funded as part of the Fund, as we follow up with research funding recipients and unsuccessful applicants to explore differences between comparable research projects (Newton-funded and externally funded).
- We will gather **subjective counterfactual evidence** from beneficiaries through scenario-framed questions, as part of the survey (e.g. *"If you had not received Newton Fund funding, what other options would you have considered?"*). While this approach presents various biases compared to a traditional counterfactual approach, we would advise that in the case of the Newton Fund, it can be a useful way of understanding beneficiaries' motivations, choices and alternatives.

Rationale for excluding counterfactual approaches

During the Initial Analysis Phase, we explored **several options of populations from which we could draw counterfactual groups** whose outcomes could be compared with outcomes of the Fund beneficiaries.

Pros and cons of each option were explored in terms of their feasibility, efficiency, accuracy and statistical representativeness:

1. **Unsuccessful applicants to the Fund:** this option is the most intuitive and easiest to put in place in practice. If we can ensure that comprehensive records are kept by Delivery Partners on unsuccessful applicants, a database of non-beneficiaries can be built over time and compared to data gathered from beneficiaries. Besides, unsuccessful applicants are likely to have a higher survey response rate than non-applicants as surveys could be presented as an opportunity to provide feedback on their experience of the application process.

The main drawback of this approach is the systematic bias introduced between the "treatment" group of successful applicants and "comparison" groups of unsuccessful applicants. The nature of the selection process implies that candidates are selected based on criteria that have a direct influence on the expected results and intermediary goals of the funding. The counterfactual would therefore be inherently imperfect and – although this can be partly mitigated through statistical methods – a systematic bias would remain between the two groups.

2. **Other non-beneficiary institutions and individuals in partner countries:** this option is similar to the previous one except that it does not focus on unsuccessful applicants but target all individuals who "could have applied" to the Fund i.e. met its eligibility criteria. An advantage of this option compared to option 1 is that the resulting counterfactual group would be based on a broader range of individuals and institutions and can therefore be made more similar that the 'more restricted' group of unsuccessful applicants.

This approach rests on the assumption that there exists some randomness in the application process i.e. some eligible individuals/institutions did not apply for a reason that is unrelated to the Fund's expected outcomes (e.g. lack of information) but *could have been* successful applicants. In this case only we can expect a smaller "application bias" than the "selection bias" described in option 1. However, we found during our consultations with Delivery Partners that it could prove difficult to gather information on non-applicants and to make them take part to a web-based or phone survey.

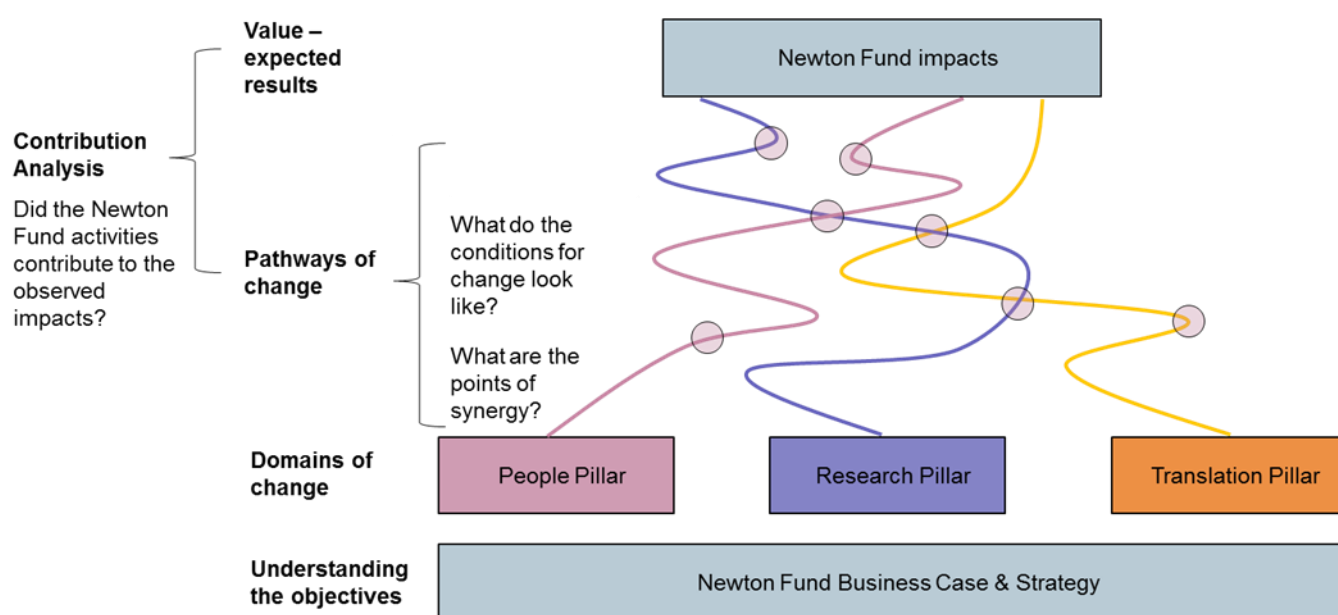
3. **Individuals or departments from institutions benefitting from the Fund but which do not benefit from the Fund themselves:** this option is relevant only if we can identify individuals or departments (within businesses or universities) that do not directly or indirectly benefit from the funding and if some of these individuals/departments are comparable to the group of beneficiaries.

(cont'd) A major drawback of this approach is that it is also possible that those individuals/ departments were simply not eligible from the beginning (e.g. if a university faculty covers subjects that are not relevant to the Fund) and can therefore not be compared to the beneficiary population.

As a result, to enhance the depth of evidence gathered, a *theory-based evaluation approach* enables us to understand better the different types of changes that the Newton Fund is aiming to achieve.

It helps trace the underlying rationale or theory of the intervention ('pathways of change') to answer questions relating to 'how' and 'why' the programme works as it does (Figure 5). Theory-based evaluation approaches allow **measuring the Fund's contribution step-by-step** by testing assumptions underpinning the Theory of Change.

Figure 5. Measuring Newton Fund activities' contribution to results



2.3.2 Approach to Contribution Analysis

A major challenge for any evaluation is to establish that an observed outcome is attributable to the programme's intervention and would not have happened otherwise. As outlined in the previous section, **the challenge of attribution is compounded in this case because the Newton Fund will implement overlapping projects under different pillars, with multiple goals that are intended to reinforce one another.**

Using information and data collected as part of the Newton Fund programme-level evaluation, our evaluation design will bring together the analysis and findings from different quantitative and qualitative, primary and secondary data sources, using *contribution analysis*. Based on the Newton Fund Theory of Change, the team will identify the expected pathways of change, including the role of internal assumptions and external factors. These pathways of change will be tested and documented as part of our approach, as well as the impacts achieved. The contribution analysis will allow this evaluation to **assess alternative and external explanations** for change to test the extent to which programme activities contributed to observed change.

A contribution analysis approach has six steps:

- **Step 1:** Update and elaborate pillar-level and programme-level Theories of Change (*completed*).
- **Step 2:** Set out the pathways of change to be explored based on expected synergies between Newton Fund pillars and develop evaluation questions (*completed*).
- **Step 3:** Gather evidence against key aspects of interest within the Newton Fund Theory of Change (*Mid-term and Final evaluation phases*).
- **Step 4:** Assemble and assess the contribution narrative and challenges to it (*Mid-term phase*).

- **Step 5:** Gather additional evidence iteratively through the final evaluation and endline qualitative research ([Final evaluation phase](#)).
- **Step 6:** Revise and strengthen the contribution narrative ([Final evaluation phase](#)).

2.3.3 Approach to Process Evaluation

We will conduct a process evaluation to enable BIS and the UK delivery partners to learn lessons about the delivery of Newton activities and to improve programme implementation. We will focus on the delivery aspects of the programme, to evaluate if the Newton Fund successes or failures can be attributed to its design, its delivery or a combination of the two.

The Process Evaluation will take place during the Mid-term Phase (mid 2016) in order to provide relevant and timely feedback to the different partners with a view to improve programme performance.

Our approach to the design of the process evaluation is distinguished by the following three parts:

- 1. Content evaluation** – an assessment of *what* it is the programme is actually delivering compared to what it meant to deliver as set out in the original programme planning documentation;
- 2. Implementation evaluation** – an assessment of the extent to which the programme is delivering its activities to recipients as originally intended. This includes assessing whether: (1) the programme is performing in terms of its capacity to deliver the quantity and quality of activities and services that were originally planned; and (2) the activities and services delivered are being used for the optimal effect and (3) programme management and administration arrangements are facilitating the delivery process to this end; and
- 3. Other implementation features** – an assessment of the key drivers and barriers to delivery that have positive and negative effects on the performance of the programme.

[Table 7](#) provides an indicative mapping of the key evaluation questions against the key components that constitute the proposed design.

Table 7. Mapping of process evaluation questions

Focus /component	Process evaluation questions
1. Content evaluation	Is the programme delivering what was set out in the approved business case?
	Are the activities and services being delivered in accordance with what was originally intended?
2. Implementation evaluation	Were activities under the programme completed to time and budget?
	Were there any issues identified in implementation? If so, how successfully were these addressed by delivery partners?
	What were beneficiary views of the support provided by delivery partners?
3. Other implementation features	How successfully has BIS worked in partnership with other UK and non-UK agencies on this programme?
	What are the lessons learned from funding the Newton Fund through ODA mechanisms?

2.3.4 Approach to assessing Value for Money

We will assess the value for money of the Newton Fund by looking at the interplay between costs, cost drivers and the performance of the Newton Fund at different levels of its impact logic.

The value for money assessment, while building upon findings from the process evaluation, will be carried out at the end of the programme. This reflects discussions with the EEAG where it was recognised that **assessing the costs to benefits (CBA, Cost Benefit Analysis) is problematic for a number of reasons including:**

1. the complexity of the programme itself (and the variety of activities funded), rendering the cost-benefit analysis of its various components difficult as they are interdependent;
2. the absence of a counterfactual to compare the actual situation with;
3. and the fact that many of the outcomes that the Fund is seeking to achieve cannot be meaningfully quantified (political and diplomacy benefits, improved innovation policy in partner countries, etc.).

As a result the EEAG agreed that it was neither feasible nor useful to seek to undertake a full cost-benefit analysis of the Newton Fund. Instead **our approach to assessing value for money will focus on establishing the cost-effectiveness of the Newton Fund**, framed in the context of decision-making processes at Board level to ascertain how a particular intervention has been effective and generated the “best” value possible for the investments made. Currently there are no common metrics that can be used to quantify and aggregate value for money of the Fund because of the diversity of organisations, the areas in which they work, disparities in purchasing power within partner countries and the sheer diversity of activities funded. It is, therefore, **not possible to stipulate a specific approach** or method to assessing value for money **that would be applicable to all Newton Fund activities**. For example, traditional cost-effectiveness analysis will be appropriate value for money assessment methods for some types of activity, while less direct or more strategic activities may require a more qualitative and/or process-driven approach to assessing value for money.

Our approach to assessing value for money will also include an assessment of the extent to which the programme has applied appropriate procurement, risk, project accounting and quality assurance mechanisms. We intend that this assessment will be made at the Fund level i.e. the **decision making of the Newton Fund Board and central team**. It is not intended that we will complete a comprehensive review of the processes used by delivery partners when dispersing funds to beneficiaries, though this will be explored during the process evaluation.

Value for money and decision-making

Value for money can only be achieved if organisations are able to make the right decisions at the right time. The processes and conditions for decision-making throughout the lifecycle of a project or programme should frame the evaluation of the extent to which a particular intervention has been effective and as a consequence has generated the ‘best’ value possible for the investments made. What ‘best value’ means is subject to different interpretations across the lifecycle of a project or programme. From problem identification, through to policy formulation, strategy development and programme design, **decisions made at each step in this process affect the choices that organisations make when determining the best way of generating the greatest value from the resources available**.

Organisational decision-making processes and the decisions that are made are influenced by a range of internal and external factors including: the evidence available at the time; values, beliefs and ideology; individual preferences and judgement; resource constraints; pragmatic considerations; pressure from peers; organisational and bureaucratic culture, etc. It is important that we understand the constraints and opportunities surrounding these decision-making processes so that our evaluative judgements are framed in the context in which intervention decisions were made and implemented.

2.4 Evaluation framework

We use an evaluation framework to guide the data collection and analysis of primary and secondary data. It includes the evaluation questions, sub-questions if relevant, the judgment criteria the Evaluation team will use to answer the questions, and the indicators we will look at to inform our judgment.

The Evaluation Framework, presented in [Annex 1](#), also identifies the most appropriate sources of data and research methods for collecting the data for each indicator.

Newton Fund Evaluation Framework																							
Evaluation questions	Judgement criteria	Indicators	Sources of evidence																				
			Evaluation team												Newton Fund partners			Secondary data					
			Desk-based		Mid-term				Endline														
			Country-level baselines	Country-level endlines	Online surveys/ telephone interviews	Review of research applications funded and rejected	Thematic impact studies	Process Evaluation	Online surveys/ telephone interviews	Review of research applications funded and rejected	UK benefits survey	Thematic impact studies	VIM Assessment	Monitoring data	Adhoc evaluation studies	Country strategies	SJR	WEF	WIPO	UNESCO	UNESCO Women in Science		
1) Relevance: Does the Newton Fund design and planned interventions address the problem stated in line with beneficiary needs?																							
1.1	Are the activities and intended outputs of the Newton Fund consistent with the intended outcomes and impacts and supported by existing evidence?	1.1.1	Extent to which Newton Fund activities were based on existing evidence and expected to deliver the expected results	1.1.1.1	Evidence of rationale for country selection process						✓												
				1.1.1.2	Number of intended beneficiaries and characteristics																		
				1.1.1.3	Number of targeted beneficiaries reached										✓								
				1.1.1.4	Evidence of rationale for planned activities																		
1.2	Did the Newton Fund target, reach and benefit its intended beneficiaries? Are there gendered differences in terms of benefits realised?	1.2.1	Extent to which Newton Fund partners have targeted beneficiaries 'in need' and reached these beneficiaries including women	1.2.1.1	Proportion of beneficiaries - who could not have secured funding otherwise - targeted and benefiting from Newton Fund activities										✓			✓					
				1.2.1.2	Proportion of women targeted and benefiting from Newton Fund activities										✓								
				1.2.1.3	Proportion of eligible projects which could not be funded because of budget restrictions										✓								
1.3	Did the funded research activities target the economic development, welfare and poverty issues in partner countries? Were these research activities programmes that would not have happened otherwise?	1.3.1	Extent to which the funded research activities targeted economic development, welfare, and poverty issues	1.3.1.1	Proportion of activities targeting economic development (with documented case studies)			✓	✓			✓		✓				✓					
				1.3.1.2	Proportion of activities targeting welfare (with documented case studies)			✓	✓			✓		✓				✓					
				1.3.1.3	Proportion of activities targeting poverty issues (with documented case studies)			✓	✓			✓		✓				✓					
		1.3.2	Extent to which the funded research activities had additionally	1.3.2.1	Proportion of activities targeting economic development which would not have happened otherwise			✓		✓		✓		✓									
				1.3.2.2	Proportion of activities targeting welfare which would not have happened otherwise			✓		✓		✓		✓									
				1.3.2.3	Proportion of activities targeting poverty issues which would not have happened otherwise			✓		✓		✓		✓									
2) Effectiveness: To what extent has the Newton Fund effectively delivered results?																							
2.1	Have activities under the People pillar improved capacity building in science and innovation (for individuals and institutions)?	2.1.1	Extent to which activities under the People pillar have improved capacity for individuals	2.1.1.1	Proportion of early career researchers			✓				✓				✓							
				2.1.1.2	Proportion of researchers gaining higher degrees							✓					✓						
				2.1.1.3	Number (and level, nationality) of researchers with access to improved facilities							✓					✓						
2.2	Have activities under the Research Pillar enabled successful research collaborations on topics relevant to the economic development and poverty reduction needs of partner countries?	2.1.2	Extent to which People pillar activities have improved capacity for institutions	2.1.2.1	Improved research facilities in institutions				✓					✓				✓					
				2.2.1	Activities under the Research Pillar enabled successful research collaborations on topics relevant to the economic development needs of partner countries	2.2.1.1	Number of research collaborations contributing to economic development needs			✓	✓			✓		✓							
						2.2.1.2	Favourable feedback from stakeholders on economic development effects			✓		✓			✓								
2.3	Have activities under the Research Pillar enabled successful research collaborations on topics relevant to the economic development and poverty reduction needs of partner countries?	2.2.2	Extent to which activities under the Research Pillar enabled successful research collaborations on topics relevant to the poverty reduction needs of partner countries	2.2.2.1	Number of research collaborations contributing to poverty reduction needs			✓	✓			✓		✓									
				2.2.2.2	Favourable feedback from stakeholders on poverty reduction effects			✓		✓			✓										
				2.3.1.1	Proportion of activities creating collaborative solutions to development challenges (with documented case studies)				✓				✓			✓							
		2.3.1	Translation pillar activities have created collaborative solutions to development challenges	2.3.1.2	Number of business and industry partners (SMEs/ non-SMEs) engaging in collaboration			✓		✓		✓		✓				✓					
				2.3.1.3	Proportion of business/industrial collaborators/SMEs introducing innovations			✓		✓		✓		✓									
		2.3.2	Translation pillar activities have strengthened innovation systems	2.3.2.1	Proportion of activities strengthening innovation systems (with documented case studies)				✓					✓				✓					
2.4	Were new international partnerships created as a result of the Newton Fund? What is the value of these partnerships and how sustainable are they?	2.4.1	Creation of new international partnerships	2.4.1.1	Number of new international partnerships				✓					✓			✓						
				2.4.1.2	Size of new international partnerships (number of partners)								✓			✓							
				2.4.2.1	Value of new international partnerships (total)								✓		✓								
		2.4.2	Value of new international partnerships	2.4.2.2	Value of new international partnerships (contributed by partners and/or leveraged)				✓					✓		✓							
				2.4.2.3	Rating of value of new international partnerships by partners			✓				✓			✓								
				2.4.3	Sustainability of new international partnerships	2.4.3.1	Sustainability of new international partnerships (funding, commitment)							✓		✓							
		2.5	Has the Newton Fund helped improve the capacity and skills of UK researchers and innovators? What further opportunities has the Fund opened up for the UK science and innovation base?	2.5.1	Capacity and skills of UK researchers and innovators improved by the fund	2.5.1.1	Proportion of projects involving early career UK researchers			✓		✓		✓		✓		✓					
2.5.1.2	Number of early stage UK researchers involved							✓		✓		✓		✓									
2.5.1.3	Proportion of projects supporting higher degrees earned by UK researchers							✓		✓		✓		✓									
2.5.1.4	Number of UK researchers earning higher degrees							✓		✓		✓		✓									
2.5.1.5	Number of new UK-partner country partnerships							✓		✓		✓		✓		✓							
2.5.2	UK science and innovation base opportunities opened up because of the fund			2.5.2.1	Number of further opportunities opened up (with documented case studies)			✓		✓		✓		✓									
				2.5.2.2	Start-ups and spin-outs arising from given interaction			✓		✓		✓		✓									
		2.5.2.3	Joint ventures / research institutes / research groups			✓		✓		✓		✓											
2.6	How effectively is the Newton Fund being managed? How effective are the Newton Fund mechanisms in administering funds?	2.6.1	Meeting milestones	2.6.1.1	Proportion of milestones which have been met				✓					✓		✓							
				2.6.2.1	Satisfactory monitoring procedures in place and routinely implemented							✓			✓								
		2.6.2	Monitoring of funding streams, including: input indicators – date of ITTs, number of proposals, number of reviews; output indicators – number of awards, amount, funding rate; medium term output and outcome indicators; activity-specific outcome	2.6.2.2	Outcomes of monitoring are satisfactory					✓				✓									
				2.6.3.1	Quarterly data-driven performance reviews with senior leaders and annual Strategic Reviews							✓				✓							
		2.6.4	Extent to which budgets are controlled	2.6.4.1	Projects which overspend budgets					✓					✓		✓						
				2.6.4.2	Countries which overspend budgets							✓				✓		✓					
		2.7.1	Joined up approach amongst delivery partners resulting from the fund	2.7.1.1	Proportion of delivery partners reporting a more joined up approach				✓														

[illegible]