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File Ref: PO 8093

Date: 08 November 2019

Contract Amendment No: 2

**CONTRACT FOR: Understanding Knowledge Systems and What Works to Promote Science
Technology and Innovation in Kenya, Tanzania and Rwanda**

CONTRACT NUMBER: PO 8093

With reference to the contract dated 4 April 2018, as most recently amended by the letter dated 13 January 2019) both Parties have in principle agreed to the following variations to the Contract:

Section 1, Paragraph 3, Commencement Date and Duration of the Services

Delete: "and be completed by 30 September 2019"

Replace with: "and be completed by 31 March 2020"

Paragraph 4, Financial Limit

Delete: "exceed £541,584"

Replace with: "exceed £717,803"

Section 3, Terms of Reference

Delete in toto and replace with the revised version attached.

Section 4, Special Conditions

REDACTED

Paragraph 2, Expiry Date

Delete: "2.1 This contract will terminate on 30 September 2019"

Replace with: "2.1 This contract will terminate on 31 March 2020"

Paragraph 3, Additional Documents to be included in this Contract

Add the Commercial pro-forma for the extension period submitted on 10 September 2019.

Section 5

Add the attached Appendix 1 which covers the cost of the extension period.



2. These amendments relate to an extension to the contract end date, additional costs being included in the contract, changes to the Terms of Reference and updating of the Special Conditions.
3. Please confirm in writing by signing and returning one copy of this letter, within **15 working days** of the date of signature on behalf of DFID that you accept the variations set out herein.
4. The Contract, including any previous variation, shall remain effective and unaltered except as amended by this letter.
5. Words and expressions in this letter shall have the meanings given to them in the Contract.

Signed by an authorised signatory for and on behalf
of the Secretary of State for International Development

Name:

Position:

Signature:

Date:

Signed by an authorised signatory for and on behalf of
the Supplier

Name:

Signature:

Natural Resources Institute

Date:

Documents Enclosed

Section 3 – Revised Terms of Reference including GDPR

Section 5 – Section 5 Appendix 1-REDACTED

Section 3 – Revised Terms of Reference including GDPR

Section 3

Understanding knowledge systems and what works to promote science technology and innovation in Kenya, Tanzania and Rwanda

Updated Terms of Reference

1. In many countries in Africa there is growing domestic political support for nationally-led investment in science, technology and innovation and the underpinning knowledge system, as a means to deliver strong growth and skilled people who can be agents of change and support economic and social development. Several countries have recently adopted new science, technology and innovation strategies and increased their budget commitments. In many countries, demand for higher education is surging, with tertiary enrolments increasing rapidly. However there are a number of challenges: a rapidly expanding higher education system focussed on teaching means that research systems are weak; many teaching staff do not have research experience; leading academics often supplement their primary income with additional income from consultancies; curricula are not linked to the needs of industry and links are few; evidence does not necessarily inform policy. Institutions to manage Governments new investments in science technology and innovation, such as Science Granting Councils and National Research Funds, are new or have been recently re-constituted¹.
2. Although there is widespread recognition of the need to invest in science, technology and innovation capability in low and middle income countries, and strengthening the knowledge economy, there is limited evidence on how this can best be achieved. Implicitly, an effective knowledge system should produce high quality higher education; research, innovation and new technologies; and effective evidence based policies, with an assumption that these drive human capital development and ultimately economic growth. For low income and lower middle income countries there is very limited evidence on how to develop a strong 'knowledge system' and what are the most effective investments to drive its outputs².
3. Most evidence on knowledge systems come from studies of national innovation systems³. The concept of a national innovation system was first proposed in 1988, with most empirical studies to date focussed on higher income and OECD countries. There is also a limited evidence base on national 'research systems' similarly focussed on higher income countries. There is limited evidence that these two concepts have been compared or linked in the literature.
4. The research and innovation needs of Low Income Countries (LICs) and Lower Middle Income Countries (LMICs) will be different to those of developed countries. Country contexts will also vary, for example by the strength of institutions, levels of investment, interaction between actors in the system and external networks and the macroeconomic environment. For Kenya, Tanzania and Rwanda, there are new political and financial commitments on science, technology and innovation, but a limited evidence base how to develop an effective knowledge system and what works to increase the impact of investments in science technology and innovation.
5. The UK has strong historical relationships with research and higher education institutions in Kenya, Tanzania and Rwanda. The UK Spending Review has resulted in an increase in UK's Official Development Assistance (ODA) on research under UK Aid Strategy, including new funding instruments like the Global Challenge Research Fund; the Ross Fund, increases in investment in the Newton Fund and DFID's commitment through its Research Review. This is an important opportunity to ensure effective research partnerships with research institutions in Kenya, Rwanda and Tanzania, which work to support countries own investments in science technology and innovation.

6. This research will help to inform effective investments in science, technology and innovation by Kenya, Tanzania and Rwanda and their external partners.

Purpose and Objectives

7. To propose a practical and context specific knowledge system concept for Kenya, Tanzania and Rwanda which is informed by appropriate international evidence of what works in innovation and research system approaches; and propose practical actions and recommendations for effective investments in science, technology and innovation by these countries and their partners.

Specifically:

1. Propose a practical knowledge system concept based on international and national evidence of innovation and research system approaches; and develop a theory of change for each country setting for essential elements or interactions to drive innovation and research.
2. Describe the country knowledge system in Kenya, Tanzania and Rwanda including its key constituencies and institutions; policy and regulatory frameworks and levels and sources of financing and the key elements or interactions that should drive innovation and research
3. Identify gaps, barriers and enablers in each knowledge system, what works or does not work and why for the key elements and interactions which should drive innovation and research
4. Assess the feasibility, and propose an approach to set out the economic case for investment in science, technology and innovation in Kenya, Tanzania and Rwanda, particularly for governments, and, if approved, to take this analysis forward.
5. Based on evidence and wide consultation with key stakeholders on the practical application of this research and resources available, identify practical actions to strengthen the knowledge system each country and recommendations to improve the impact of investments in science, technology and innovation

Background to the Cost and Time Extension

The “***Understanding knowledge systems and what works to promote science technology and innovation in Kenya, Tanzania and Rwanda***” is a research study that is part of an overarching programme supported by DFID on

¹ By the end of 2010, at least 37 countries either had adopted new STI policies, or were formulating new ones.

² This TOR uses the term ‘knowledge system’ throughout so as not to suggest or imply a particular theoretical approach and to enable an open exploration of national ‘systems’ or ecosystems approaches to science, technology and innovation. The knowledge system actors are likely to include governments and national funding agencies, higher education and academic institutions, R&D/innovation performers, industry and civil society. It is expected that the development of the concept and theory of change for investments in Kenya, Tanzania and Rwanda will be based on a robust review of international evidence on national innovation systems and research ecosystems, and build on this. This conceptual approach may for example expand an existing theory for national innovation systems, or research systems. In doing so the research will need to consider that the knowledge system may not be considered to be fully developed in Kenya, Tanzania and Rwanda if applying an existing framework normally applied to developed economies. For example much innovation research regards established formal sector firms and research and development (R&D) as the key drivers of innovation outcomes. But because innovative activities in developing countries typically occur in sectors in which R&D is not the main driver, such innovations may occur “below the radar” of traditional metrics. For this reason, this research should develop a consider an approach which is more applicable to these country settings and a methodology for understanding these innovations.

³ In developing the concept of knowledge systems applicable to Kenya, Rwanda and Tanzania, the Research team is encouraged to refer to the learning from the 2001 IDRC-funded programme ‘Research on Knowledge Systems (RoKS)’ (<https://idl-bnc.idrc.ca/dspace/handle/10625/33783?mode=full>)

'Strengthening research systems for poverty reduction in East Africa' (SEAK). It links to and complements existing collaborations under this programme and specifically seeks to propose a practical and context specific knowledge system concept for Kenya, Tanzania and Rwanda which is informed by appropriate international evidence of what works in innovation and research system approaches; and propose practical actions and recommendations for effective investments in science, technology and innovation (STI) by these countries and their partners.

Originally planned to run from 04 April 2018 to 30 September 2019, this pioneering research study has uncovered a complex issue of differing STI environments and trajectories across the 3 countries. Given the conceptual nature of this issue, the team has highlighted the potential value of additional time for ensuring that a new way of thinking is effectively embedded across the three country teams.

In addition, the EARH has established that there is need for an additional budget to maximise cross-initiative lesson sharing, research uptake and policy engagement activities to ensure the SEAK programme achieves greater results and promotes synergies across initiatives. Strengthening a knowledge system requires strong buy-in and effective leadership by country governments and key partners in each country.

As stated in the Business case:

"Ensuring that research is disseminated and communicated to relevant policy-makers and practitioners is a key. There will be a strong emphasis on using national and regional channels and forums (including those supported under component 1) for sharing research findings, as opposed to creating new initiatives and spaces. The rationale for this is that we can achieve greater research impact and added value by accessing policy-makers and practitioners in the spaces in which they already convene."

This time and cost amendment of £ 176, 219 will enable DFID to maximise the leverage of the policy recommendations from this research study and evidence from the other SEAK initiatives (Science Granting Councils Initiative and African Academy of Sciences programmes), to contribute to wider research system strengthening and new evidence on research systems (as set out in the Theory of Change). It will also address a risk highlighted in the business case of loss of coherence of the overall programme (an investment of £14.4M), leading to stronger impact and outcomes.

The 2018 Annual Review for SEAK included a recommendation for "EARH to develop a plan to promote synergies in the dissemination of programme outputs and learning across initiatives." The 2019 Annual Review for SEAK included recommendations for: 1) "the KSI team to provide a work-plan for translating, packaging and disseminating clear outputs to key stakeholders, with a sharpened focus on practical and actionable recommendations; and 2) "the EARH to promote synergies by facilitating sharing and learning opportunities across initiatives and identifying forums for dissemination of program outputs".

The amendment provides a window of opportunity for the findings of this project to be shared with SEAK programme partners and stakeholders at several upcoming key national, regional and global events, these activities will occur after September 2019 and therefore cannot be undertaken within the allocated time and budget. The amendment will specifically fulfil the above annual review recommendations and mitigate a risk identified in the Business Case by promoting coherence and evidence uptake across the programme's initiatives. It will also leverage SEAK learning to support the implementation of the new x-HMG approach to Africa on STI.

The supplier is uniquely placed to implement this work because of the knowledge, partnerships and linkages developed as part of the study implementation, and the strategic role of the implementing partner, the African Centre for Technology Studies (ACTS), in pioneering development research on harnessing applications of STI policies for sustainable development in Africa.

Methodology

6. It is expected that the **review of existing evidence and further development of the theoretical approach** will be a robust review and significant output of the project. The research team will conduct a rigorous impartial review of the existing literature and data to critically appraise it on quality and relevance in relation to the research questions. This will build on Economic and Private Sector PEAKS desk review⁴. It will not be a systematic review, but the research team will be expected to set out a clear methodology for systematically searching, selecting and reviewing evidence for inclusion in the review. The review will involve a critical analysis of both published and grey literature and data, highlight and compare findings from key sources, identify gaps or inconsistencies in the current body of knowledge, as well outline an approach to assessing the quality and strength of evidence in accordance with DFID guidance.⁵ The reviews should include a commentary on quality of available data sources used and whether data is open source, available on request, or not publically available and where possible an indication of how the data has been used in the four countries. The outputs should clearly outline the limitations with existing information and identify priority evidence and data gaps to be addressed.

7. The **mapping and description of a country knowledge system** will involve mixed methods research. The Research Team will be expected to develop a detailed research protocol for this objective setting out the research questions, research methods, sampling strategy, data handling and analysis and measures to ensure the robustness of the research at all stages. This will include a research matrix table linking each research question to the methods to address it, sampling and sample size for each method and target respondents and data to be collected. Fieldwork should involve both quantitative and qualitative methods. The Research Team are strongly encouraged to use and build upon the existing data, particularly data available through the Science Granting Councils Initiative.

8. The **political economy analysis** will involve both desk based and fieldwork in each country setting. The research team will apply the conceptual framework to take an in-depth look at the political economy drivers and constraints of the knowledge system and innovation and research. The analysis will include an analysis of the structural constraints-barriers that may affect women's participation in knowledge/innovation systems. In developing the detailed methodology, the research team should consult the guidance in the DFID paper on political economy analysis⁶ and the World Bank How to notes on political economy assessments at sector level.⁷ It is expected that qualitative research methods will be largely used for the political economy analysis, primarily key informant interviews in within each of the constituencies of the knowledge system. The aim of this analysis should be to identify key lessons learnt and opportunities to support innovation and research in future and recommendations for areas of investment with likely success.

9. The **investment case** analysis will commence with a feasibility assessment based on a review of international evidence on a return on investment approach for national level country investments in science, technology and innovation. The scoping will also assess the availability of relevant data in each country setting. If feasible, the research team will set out the methodological approach and detailed costing and workplan to implement the research. The team will set out assumptions clearly and include sensitivity analysis.

10. The identification of **practical actions** will be based on a process of consultation and iteration with key stakeholder in each setting. It is likely that longer term reform issues may be raised through the research, but it is also important that recommended actions are well grounded in the context, practically focussed and feasible. Insights in terms of gaps in knowledge and areas for future research should be presented.

11. The study will include a gender disaggregation of data as far as possible and including a consideration of gender within the political economy analysis.

Study outputs

⁴ Link and reference to published PEAKS desk review (<https://partnerplatform.org/eps-peaks>)

⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291982/HTN-strength-evidence-march2014.pdf

⁶ DFID, 2009. Political Economy Analysis How to Note. Accessed at <http://www.gsdr.org/docs/open/PO58.pdf>

⁷ World Bank How to notes on political economy assessments at sector and project level. Accessed at <http://www.gsdr.org/docs/open/PE1.pdf>

12. The overall research project will take place over 24 months, with a number of important and timed deliverables.

Milestone 1 (month 3): scoping report no more than 20 pages plus annexes, including:

- Assessment of feasibility of the methodological approach; availability of existing evidence and information including any potential limitations or constraints with available information and data sets
- A detailed methodological approach setting out overarching research questions, a detailed methodology and data collection protocols, risk analysis
- Stand-alone detailed annex (maximum 10 pages) on the feasibility of and proposed methodology for the investment case for investing in science technology and innovation in each country.
- Workplan with key milestone and meeting dates
- Stakeholder consultation, communication and research uptake strategy

Milestone 2 (month 6):

- *Draft* report on the review of existing evidence on national knowledge systems, factors which drive innovation and research at national level, evidence on what works to strengthen knowledge systems, and proposed conceptual approach and theory of change for each country setting.

Milestone 3 (month 15):

- Final report in the form of a draft academic paper on the robust review of existing evidence on national knowledge systems, factors which drive innovation and research at national level, evidence on what works to strengthen knowledge systems, with annexes on the conceptual approach and theory of change for each country setting.
- Draft report no more than 20 pages for each country setting presenting the early analysis of the country knowledge system, its key constituencies and the factors/elements or interventions to drive innovation and research and the applicability of the knowledge systems concept.
- (If approved for research) Draft reports of no more than 15 pages on early analysis of the investment case
- Draft briefing notes up to 3 pages for each country summarising the key findings.

Milestone 3: (months 20):

- Consultation in each country to consult on the findings and develop and hone practical actions to support research and innovation

Milestone 4: (month 24)

- Overarching summary report for the project on the development of the knowledge system framework, evidence review and lessons from application in three country settings, plus the investment case findings (no more than 30 pages plus annexes)
- Final briefing note up to 3 pages on the overall knowledge system framework approach
- Final report *for each country* of no more than 20 pages (plus annexes) which summarises the findings from mapping and description and political economy analysis, investment case summary and recommendations for practical actions for each country's knowledge system.
- Final briefing note up to 3 pages *for each country* summarising the findings from the study
- Final detailed report *for each country* of the investment case no more than 10 pages (plus annexes) with recommendations for practical actions with a likely high return on investment
- Final briefing note up to 3 pages on the investment case for science, technology and innovation *for each country*
- Three or more academic papers from the research which have been peer reviewed and formatted to submit for publication. The research team will propose the expected number and proposed topics for these papers at Milestone 1.

Briefing notes will be short, clear and written for a non-academic audience. These will be drafted for use by key

government partners, key stakeholders and DFID. The academic papers should be of high-quality and follow specific presentation requirements eligible for peer reviewed publication. The Research Team will identify appropriate journals relevant to the nature of the research and organise submission of the paper for journal publication.

Cost and Time extension; Additional Outputs

The proposed amendment will not significantly change the overall scope of the contract but has potential to significantly enhance value. The additional 6 months will primarily allow a seamless continuation of ongoing activities and take advantage of the window of opportunity for the findings of this research study to feed into several key local, regional and international events.

In addition, the time and costs changes will allow for the incorporation of further workstreams around research uptake and policy engagement - these are within the scope of the project's primary scope which is to: 1) bring together robust international evidence and country level research to inform a clear and practical approach for national decision makers in the target countries; and 2) provide recommendations on how investments in STI can contribute most effectively to sustainable development.

Proposed activities for the additional funds include: 1) a knowledge translation workshop and validation meetings with regional and national advisory committees to ensure buy-in for the study findings and practical recommendations; 2) development of open-access publications that will further promote the uptake of findings from this study; and 3) policy engagement activities, including: policy forums (in collaboration with the African Academy of Sciences) with each of the three governments (Kenya, Rwanda and Tanzania) to review plans for investment in R&D based on study recommendations; 4) a regional symposium bringing together evidence from studies commissioned by various UK government departments and partners alongside the Science Granting Councils Initiative annual meeting; and 4) ministerial engagement at the South Africa annual Science Forum.

Research uptake:

13. The Research Team should include in their tender an outline proposal for research uptake of study findings in accordance with DFID guidance.⁸ This will be developed further and finalised during the scoping phase (by end month 3). Key stakeholders for this research will advise the research team on how the outputs will be used and key policy fora for presentations. The key stakeholder consultation should include a meeting of with the overarching Steering Group in one of the three countries at month 15.

14. In addition to consultations and research visits (set out in the methodological approach) the Research Team will prepare for three consultation meetings on the research finding, one in each country at/around months 15/16. These will form part of the ongoing high-level policy for a in each country.

15. The research products will follow specific, consistent format requirements including systematic searching, reporting, summarising and external peer review. In line with DFID best practice, reports and papers produced from this study will be published on 'Research for Development' website⁹ and disseminated to key stakeholders.

16. The Research Team should include in their tender a clear description of how the team will meet institutional ethical requirements, as set out in the DFID guidance¹⁰. This should include, but not be limited to, demonstrating an understanding of the sensitive nature of the research and issues of access and confidentiality related to this and how to mitigate risks for respondents and researchers.

Management Arrangements

⁸https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/200088/Research_uptake_guidance.pdf

⁹ <https://www.gov.uk/dfid-research-outputs>

¹⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/67483/dfid-ethics-prcpls-rsrch-eval.pdf

17. The Research Team will design and manage this research study, including drawing together the findings for reporting and undertaking dissemination activities. It is expected that the overall team will be comprised of a Principal Investigator responsible for the overarching question, with a Co-Principal Investigator *for each country study*. Team composition and coordination approach will be proposed by the Research Team.

18. An Overarching Steering Group will have a Government or National Research Council representative from Kenya, Tanzania and Rwanda; plus representation from UK (BEIS, DFID, RCUK), co-funding partners to DFID's research strengthening programme and independent Advisers. The Overarching Steering Group will be responsible for providing advice and general oversight of the research. Each country will have a Country Advisory Group comprising key representatives and policy makers for Science Technology and Innovation. A smaller Programme Management Group will oversee progress and will comprise key individuals from the Government or National Research Council representative from each country and DFID.

19. This study will be procured and managed by DFID. The EARH team will manage the programme on a day-to-day basis, acting as the direct point of contact for the Research Team and coordinating and communicating the consolidated technical inputs from the Steering Group. All project milestone deliverables will need to be reviewed and approved by the Overarching Steering Group. The SRO for the programme will be the Head of the EARH.

20. Value for money in relation to the delivery of this project will be achieved through open competition to identify the most appropriate supplier. All bids received will be subject to a full technical and commercial evaluation against published criteria to determine which supplier's proposal would best meet the call's requirements and deliver a high-quality project and suitably address value for money considerations. This will also enable a comparison of unit costs.

21. The Research Team will be involved in up to 3 meetings with the Overarching Steering Group (1 at the end of the scoping phase (3 months) and 1 at Milestone 3 (15 months) and end of project. Meetings will take place in one of the three countries and will also involve teleconferencing or videoconferencing. Additional meetings for consultation and policy uptake in each country and in UK will be set out in the proposal and scoping report. This should include a presentation by the Principal Investigator(s) at a regional meeting or annual forum of the Science Granting Councils Initiative.

22. Potential suppliers are also encouraged to think about their own internal mechanisms for quality assurance and allow for the costs and time of external peer review in the technical and commercial proposals.

Project Team

23. Collaborating institutions must be a recognised higher education institution, research organisations or organisations with a credible research capacity and experience of conducting similar research projects. There will be a Principal Investigator for the overarching questions and management of the study. The Principal Investigator's institution should demonstrate adequate capacity to undertake the management of this project. The Principal Investigator for the overarching programme will quality-assure the outputs before submission to DFID

24. Tenders from suitably qualified organisations or consortia are equally welcome. We welcome leadership of the country studies by a Co-Principal Investigators from each country setting.

25. Preference will be given to groups incorporating experience of knowledge systems academic analysis and application internationally, with country-specific knowledge systems expertise for each country. We encourage teams to consider how to promote the further academic development of the researchers involved in each country working under the mentorship and supervision of the Principal Investigators.

26. Full CV's of the Principal Investigators and academic expert(s) must be submitted within proposals. Individual researchers are permitted to be involved in multiple group bids to this call. CV's should be limited to

3 pages. The Research Team should demonstrate knowledge and expertise of the research questions and strong relationships with key knowledge system stakeholders, particularly the Government and national Science Granting Councils (Research Councils) in each country.

27. Bidders are encouraged to briefly outline how they will ensure independence in their work in their proposals and manage any potential conflicts of interest.

28. Value for money (in respect of both the overall package of work proposed and the rates for project team members' time and other costs) will be a key criterion in tender assessment.

Skills and Qualifications

29. The Research Team is expected to demonstrate:

- Academic track record and specialist experience of Knowledge Systems theory and evidence (this may be drawn from national innovation systems and/or national research systems)
- Knowledge and in-depth experience of the Knowledge Systems (i.e. innovation and/or research systems) in three country settings
- Managing and undertaking rigorous evidence synthesis products.
- Knowledge and specialist experience of political science and robust political economy analysis, preferably working in the countries.
- Knowledge and specialist experience of value for money and economic investment case analysis and preferably of national investments in science, technology and innovation; innovation or research systems.
- Getting research products into use through peer reviewed academic papers for publication.
- Strong written and oral communications skills, including to a non- technical audience

Timeframe

30. Originally planned to run from 04 April 2018 to 30 September 2019, this programme will now run up to March 2020.

Reporting and Monitoring and Evaluation

31. In addition to the project deliverables (outlined under 'Study Outputs') the research team will need to ensure programme management reporting to the EARH. This includes short quarterly progress reports to accompany financial reports. All 'Study Outputs' need to be approved by DFID based on the advice and recommendation of the Overarching Steering Committee.

32. The Scoping Report (Milestone 1) outlining the detailed methodological approach needs to be approved for the continuation of the study.

33. At Milestone 1 the Steering Committee will also review the feasibility of and proposed methodology for assessing the economic investment case for investing in science technology and innovation in each country (based on the stand alone annex in the Scoping Report). If approved this component of the overall study will move ahead. (Budgets within the tender should show as a separate section the provision for the continuation of this study component (if approved) but this should fall within the overall proposed costs of the study).

Duty of Care and Logistical Arrangements

35. It is essential that potential suppliers are aware of DFID's Duty of Care policy¹¹ and take appropriate security precautions as required. A Duty of Care Assessment is included in the Annex Bidders will be asked to develop their tenders on the basis of being fully responsible for Duty of Care and that they have the capability

¹¹<http://insight/MoneySight/Procurement/Planning-a-procurement/Other-key-issues-to-consider/Pages/Duty-of-care-to-suppliers.aspx>

to provide security and duty of care for the duration of the contract. Capacities for security and duty of care management in particular countries will be assessed during the tender evaluation process.

36. Bidders should set out in the tender how they will manage conflict of interests and ethics, and what procedures they will put in place to ensure CEDIL and the programmes undertaken will adhere to DFID's Ethics Principles, and how any issues will be managed.

UK Aid Branding

37. Partners that receive funding from DFID must use the UK aid logo on their development and humanitarian programmes to be transparent and acknowledge that they are funded by UK taxpayers. Partners should also acknowledge funding from the UK government in broader communications, but no publicity is to be given to this contract without the prior written consent of DFID.

Transparency

38. DFID has transformed its approach to transparency, reshaping our own working practices and pressuring others across the world to do the same. DFID requires Suppliers receiving and managing funds, to release open data on how this money is spent, in a common, standard, re-usable format and to require this level of information from immediate sub-contractors, sub-agencies and partners.

39. It is a contractual requirement for all Suppliers to comply with this, and to ensure they have the appropriate tools to enable routine financial reporting, publishing of accurate data and providing evidence of this DFID – further IATI information is available from; <http://www.aidtransparency.net/>

Digital Principles for Partners and Suppliers

40. DFID expects all partners and suppliers who manage aid programmes with a digital element to adhere to the global Principles for Digital Development. If any proposal contains a digital element this must be costed separately within the proformas and are subject to approval by DFID's digital team.

Research Ethics

41. It is essential that the any research conducted under this programme adheres to appropriate ethical practice. Contracts will only be awarded to Suppliers where research / evaluation ethics and appropriate ethical clearance protocols are embedded in their institutions or where they are approved by independent Ethics Review Committees who are responsible for giving ethical clearance. Strengthening ethical practice for research and evaluation will form a key part of any capacity building efforts with partner organisations.

42. Key points to be considered include:

- Information gathering and documentation must be done in a manner that is methodologically sound, and builds on current experience and good practice
- Protecting confidentiality of individuals and institutions is essential to ensuring no harm to respondents and data quality
- Anyone providing information must give informed consent before participating in the study

43. The Department for International Development (DFID) is the part of the UK government that manages Britain's aid to low-income countries and works to eradicate extreme poverty. DFID's East Africa Research Hub (EARH) supports DFID country offices in Eastern Africa (Kenya, Tanzania, Uganda, Rwanda, Ethiopia, Somalia, Sudan and South Sudan) to use evidence to drive development impact and value for money, linking with UK's wider science and research agenda in the region.

44. This research will part of an overarching programme supported by DFID on 'Strengthening research systems for poverty reduction in East Africa'. It will link to and complement existing collaborations under this programme. These are:

Science Granting Councils Initiative¹² which aims to strengthen the capacities of fifteen science granting councils in sub-Saharan Africa in order to support research and evidence-based policies that will contribute to the continent's economic and social development. This is a collaboration between Canada's International Development Research Centre, South Africa's National Research Foundation and DFID.

Accelerating Excellence in Science in Africa¹³, an initiative of the African Academy of Sciences (AAS) and the New Partnership for Africa's Development (NEPAD) Agency, which is an agenda setting and funding platform established to address Africa's health and development challenges. AESA is co-funded by the Wellcome Trust and the Bill and Melinda Gates Initiative.

45. There are specific initiatives under these two programmes where this research will be expected to be aware of, link to and build on wherever possible:

- Understanding the political economy of Science Granting Councils in Sub-Saharan Africa.
This is a baseline study of key political and economic factors influencing Science Granting Councils at a regional and sub-regional level in Africa. Additionally, five Sub-Saharan African countries will be studied in more depth, including Kenya, Tanzania and Rwanda. The study is being conducted by the Science Policy Research Unit (SPRU) at the University of Sussex and the African Centre for Technology Studies (ACTS), based in Nairobi. The study focusses specifically on Science Granting Councils, not the wider knowledge system, but will form an important contribution to this study in Kenya, Tanzania and Rwanda. The report is due in mid-2017.
- Under Accelerating Excellence in Science in Africa, Liverpool School of Tropical Medicine is conducting cross-portfolio research and learning on: promoting equitable career pathways for internationally competitive African researchers including women and other under-represented groups; improving the quality of institutionalised research training; encouraging researchers to do research that is needed and used in Africa
- Desk review on Development of national knowledge systems to support the knowledge economy development in low and middle-income countries: Literature review. PEAKS Helpdesk report.

46. This TOR uses the term 'knowledge system' in order enable an open exploration of national 'systems' or ecosystems approaches to science, technology and innovation. It is expected that the development of the concept and theory of change for investments in Kenya, Tanzania and Rwanda will be based on a robust review of evidence on national innovation systems and research ecosystems and build on this.

¹² <http://www.sgci africa.org/>

¹³ <http://aesa.ac.ke/>

47. As an illustration of a *possible* knowledge system approach, system actors in innovation or research systems may include knowledge producers, enablers, intermediaries and users. Knowledge producers might include universities and other research institutions, think-tanks, technological developers, national statistics and data agencies. Knowledge enablers will include government and regulatory authorities, appropriate legal and policy frameworks, and strong systems to fund research, technology and innovation. Knowledge users include different government departments, legislators, industry and the private sector and regulatory bodies, with different emphases based on research or innovation. The boxes outside these spheres show the system outputs. The importance of each of these outputs to development will vary from the macro-economic, capacity of the intuitions and political priorities for investments in each country.

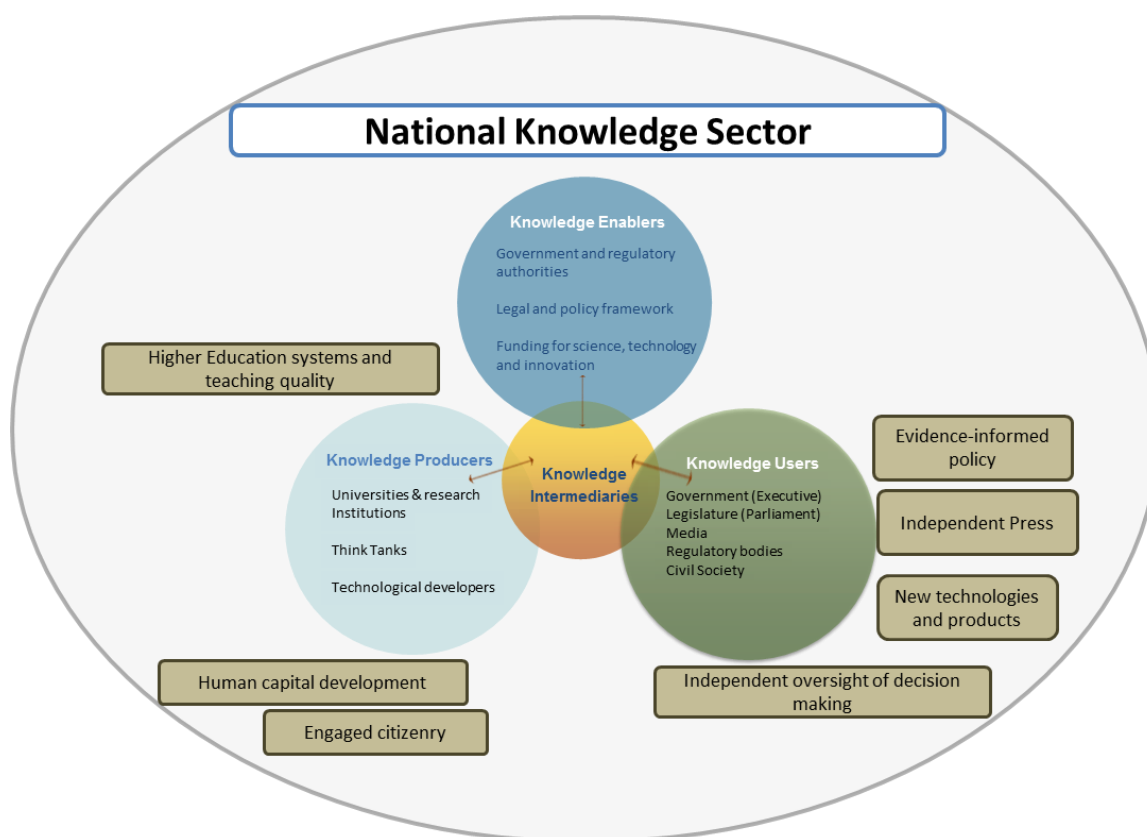


Figure 1: This diagram illustrates different components of a national knowledge system and their interactions. There are a number of ways to represent a national knowledge system. This diagram is adapted from a 'Triple Helix' model of a national innovation system and assumes the Quadruple and Quintuple updates to this model¹⁴.

¹⁴ This diagram is adapted from the 'Triple Helix' model that the university-industry-government relationship is the basis for innovation and development in a knowledge based economy. Arrangements and networks among these three institutional spheres provide the transaction space to support evidence-based policy and innovation processes. The Triple Helix analytical framework has been applied to systems of innovation for industry and growth. In this adaptation, the industry sphere has been extended to encompass other areas of development and wider users of new knowledge within the research system. The Triple Helix innovation model focuses on university-industry-government relations and is compatible with the *knowledge economy*. This concept has been further developed by adding as a fourth helix the 'media-based and culture-based public' and 'civil society' (the Quadruple Helix). The Quadruple Helix adds the dimension of the *knowledge society* and *knowledge democracy* for knowledge production and innovation. A further Quintuple Helix adds the 'natural environments of society' and is ecologically sensitive. (In Carayannis EG, Barth TD and Campbell DFJ (2012) The Quintuple Helix innovation model: global warming as a challenge and driver for innovation. *Journal of Innovation and Entrepreneurship A Systems View Across Time and Space* 20121:2)

48. General Data Protection Regulations (GDPR)

Please refer to the details of the GDPR relationship status and personal data (where applicable) for this project as detailed in App A and the standard clause 33 in section 2 of the contract.

Annex 1: DFID Overall Project/Intervention - Summary Risk Assessment Matrix:

Project/intervention title:

Date of assessment: May 2019

Theme	DFID Risk score
Country/Region	Tanzania
OVERALL RATING¹⁵	3
FCO travel advice	1
Host nation travel advice	N/A
Transportation	3
Security	3
Civil unrest	2
Violence/crime	4
Terrorism	3
War	1
Hurricane	1
Earthquake	3
Flood	2
Medical Services	3
Nature of Project/Intervention	2

1 Very Low risk	2 Low risk	3 Med risk	4 High risk	5 Very High risk
Low		Medium	High Risk	

¹⁵ The Overall Risk rating is calculated using the MODE function which determines the most frequently occurring value.

Annex 2: DFID Overall Project/Intervention - Summary Risk Assessment

Project/intervention title: Improving Early Childhood Development in Rwanda (IECD-R)

Location: Rwanda

Date of assessment: 23/10/2018

Theme	DFID Risk score
Country/Region	Rwanda
OVERALL RATING¹⁶	2
FCO travel advice	2
Host nation travel advice	2
Transportation	2
Security	2
Civil unrest	1
Violence/crime	2
Terrorism	1
War	1
Hurricane	N/A
Earthquake	3
Flood	2
Medical Services	3
Nature of Project/Intervention	

1	2	3	4	5
Very Low risk	Low risk	Med risk	High risk	Very High risk
Low		Medium	High Risk	

¹⁶ The Overall Risk rating is calculated using the MODE function which determines the most frequently occurring value.

DFID Overall Country Risk Assessment matrix - Location: Kenya

Date of assessment: **04 June 2019**

Theme	Risk Score	Risk Score	Risk Score
	Kenya (excluding areas listed separately)	Advise against all but essential travel to within 15km of the coast from the Tana River down to the Sabaki River North of Malindi. It covers Lamu County and those areas of Tana River County north of the Tana river itself. Lamu and Manda Islands are excluded.	Advise against all but essential travel to Mandera, Daadab and Garissa plus anywhere else within 60km of the Somali border (including areas North of Pate Island on the coast) ¹⁷ and Eastleigh in Nairobi
OVERALL RATING	4	4	4
FCO travel advice	4	5	5
Host nation travel advice	Not available	Not available	Curfew in Place
Transportation	4	4	4
Security	4	4	4
Civil unrest	5	5	5
Violence/crime	5	5	5
Terrorism	4	4	4
Espionage	Not available	Not available	Not available
War	1	1	3
Hurricane	1	1	1
Earthquake	1	1	1
Flood	2	2	2
Medical Services	3	3	4

1 Very Low risk	2 Low risk	3 Med risk	4 High risk	5 Very High risk
			SIGNIFICANTLY GREATER THAN NORMAL RISK	

NOTE: DSU only assess the overall rating and scores for Violent Crime, Terrorism and Civil Unrest

Appendix A: of Contract Section 3 (Terms of Reference) Schedule of Processing, Personal Data and Data Subjects

This schedule must be completed by the Parties in collaboration with each-other before the processing of Personal Data under the Contract.

The completed schedule must be agreed formally as part of the contract with DFID and any changes to the content of this schedule must be agreed formally with DFID under a Contract Variation.

Description	Details
Identity of the Controller and Processor for each Category of Data Subject	<p>The Parties acknowledge that for the purposes of the Data Protection Legislation, the following status will apply to personal data under this contract</p> <p>1) The Parties acknowledge that Clause 33.2 Protection of Personal Data and 33.4 (Section 2 of the contract) shall not apply for the purposes of the Data Protection Legislation as the Parties are independent Controllers in accordance with Clause 33.3 in respect of the following Personal Data:</p> <ul style="list-style-type: none"> Any and all, personal data or information which are related to an identified or identifiable natural person including Names, education, contact details etc.



Section 5 – Section 5 Appendix 1

REDACTED