Foreign, Commonwealth & Development Office

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File Ref: PO 6456

Date: 24th September 2020

Contract Amendment No: 1

CONTRACT FOR: Improving Water Security for Poor People Research (IWSP Research)

CONTRACT NUMBER: PO 6456

With reference to the contract dated 21st January 2015, both Parties have in principle agreed to the following variations to the Contract:

Section 1 - Form of Contract:

i. Paragraph 3, Commencement and Duration of the Services: **DELETE** – "End date: 25th May 2022" and INSERT: "End date 24th May 2024".
ii. Paragraph 4, Financial Limit: **DELETE:** "Financial Limit of £14,992,484" and **INSERT:** "Financial Limit of £22,492,483.41."

Section 2 – Conditions of Contract, DELETE: Clause 7 in toto and **INSERT:** ***REDACTED.***

Section 3 – Terms of Reference:

i. **INSERT**: Annexe A, Additional Requirements, April 2020
ii. **INSERT**: Appendix A: Schedule of Processing, Personal Data and Data Subjects.

Section 4 – Special Conditions:

10. Duration of the Services and Break Rights
Sub paragraph 10.1 – INSERT the following clause: ***REDACTED***.

50. Safeguarding - INSERT the following clause**:** ***REDACTED*.**

Section 5 – Schedule of Prices: Insert Annex D, Schedule of Prices and Milestone payment plan for Scale up and Extension activity.

2. This amendment relates to:

i. A scale-up of REACH's ongoing activities to build on early success and to capitalise on emerging opportunities. This has resulted in an increase to budget, an extension to the duration of the Contract

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and a defined specification for the scale up which includes key performance indicators.

ii. The inclusion of Safeguarding and GDPR clauses and new break point to the current Terms and Conditions of Contract.

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 FCDO 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:	
	Date:	[

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Contract Amendment no. 1

Section 3, Terms of Reference, Annex A (September 2020)

Additional Requirements: REACH: Improving water security for the poor

BACKGROUND

REACH is a global research programme which uses an innovative risk-based framework to promote an integrated approach to water security, specifically in the context of fragile states. The programme is providing robust and accessible evidence for governments, municipalities and other investment/policy decision-makers in Africa and South Asia, on how to sequence investments to improve water security, considering the cost-benefits and trade-offs associated with investment decisions looking across water systems as a whole. It aims to improve water security for 5 million poor people.

The programme is led by Oxford University, in partnership with UNICEF, global partners (International Food Policy Research Institute, International Water Association, Rural Water Supply Network, IRC (Netherlands)) and national partners in Kenya (University of Nairobi), Ethiopia (Water and Land Resource Centre WLRC/Addis Ababa University) and Bangladesh (Bangladesh University of Engineering & Technology, University of Dhaka, International Centre for Diarrhoeal Disease Research Bangladesh).

The Business Case was approved in August 2013 and following a competitive procurement process, the contract was signed with Oxford University on 21 January 2015. FCDO is providing £15m over 7 years, with up to 30% of the overall budget allocated to support competitively funded and directed work to amplify the impacts and reduce the risks of this complex, global programme.

Research is delivered across three core countries (Bangladesh, Ethiopia, Kenya) through eight "observatories" (Box1) which are long-term, instrumented and interdisciplinary centres of research, each with a detailed workplan setting out a programme of work. Science-practitioner partnerships for each observatory provide platforms for long-term, sustained engagement with stakeholders, supporting design of policy-relevant research and integration of the research results into policy and practice.

Box 1: REACH Observatories

Bangladesh:

1. Coastal water security (dynamics between poverty, growth & infrastructure investment - **Kulna**)
2. Water security for an urbanising river (rapid industrial growth including garment industry -**Dhaka**)
3. Universal drinking water security and institutional design in rural Bangladesh - **Matlab**)

Ethiopia:

4. Sustaining growth through water security (trade-offs around promoting growth in the **Awash** basin)
5. Water security in fragile environments (impacts of sustainable land management (**SLM**) in NE highlands)
6. Small town pathways to water security (implications of government WASH/growth programmes - **Wukro**)

Kenya:

7. Building water secure institutions (including Fundifix, mitigating rural water insecurity risks in **Kitui**,)
8. Small towns in fragile environments (risks and institutional responses in **Turkana**/**Lodwar**)

Achievements to-date

REACH is successfully delivering real outcomes for the poor, as well as influencing the way that both global and national sector partners manage water. The risk-based approach and science-practitioner partnerships have proved effective in communicating research to end users and reducing barriers to interdisciplinary collaboration. New technologies (including smart handpumps and biosensors) are enabling innovative approaches to water management. Examples of REACH's successes include:

- Research on effective maintenance models for rural water supply in Kenya have led to more reliable and financially sustainable water services for over 76,000 people, including 25,000 school children, mobilising user payments of around £7,000.

- Mobile biosensor technology developed by Oxford University has been tested as a low-cost and portable toxicity measure for industrial pollutant monitoring in the River Turag - one of the most heavily polluted in the world and a hub for Bangladesh's garment industry. Success has led to MOUs with the Department of the Environment to expand and test at scale, and UK industry support for research (including agreement with Primark for testing in their supply chain in Dhaka).

- Pioneering approaches and new methods to understand and respond to water insecurity for women, including development and testing of a new empowerment indicator to measure gendered empowerment for water and sanitation programming. The tool has been tested with an international WASH NGO and will be further validated in REACH's observatories.

- A new citizen science approach to groundwater management in Ethiopia, implemented through the World Bank's USD129 million Resilient Landscape and Livelihood Project in Ethiopia, which will benefit 3 million people.

- Collaboration with the Ministry of Water, Irrigation and Electricity in Ethiopia has led to improving modelling of water systems in the Awash river basin. Co-development of models and capacity development are facilitating uptake of water quality models and climate forecasts to support decisions that can increase climate resilience in the basin.

The programme has been performing consistently well, achieving A+ ratings across all three years of reviews. Impact monitoring shows that REACH has been influencing significant improvements in water security through changes in policy and practice, as demonstrated by their success stories.

REACH has a total budget of £15 million, with forecast expenditure to 30 April 2019 standing at £8.1 million. The remaining funds are committed under workplans agreed with partners to 2022. The programme has successfully leveraged over £36 million in additional research investments, including £12 million from USAID on Sustainable WASH systems and £20 million from UKRI for a GCRF Hub on Water Security and Sustainable Development. A small influential addition has been $184,000 of co-funding from UNICEF for work on professionalising water supply maintenance and monitoring quality in Bangladeshi schools.

The rationale and need for further funding was set out in the addendum to the Business Case and the Contract Amendment Approval form, approved by the Deputy Chief Scientific Advisor and PCD.

PURPOSE

The purpose of this cost extension is to scale up REACH's activities over the next 5 years to build on the existing success, ensuring that the research can continue to inform policy and practice to benefit the poor and marginalised and maximise value for money from FCDO's existing investment. The cost

extension will result in research and evidence that improves water security for a further 5 million people, doubling the impact expected from the original programme. The work programme has been refined based on consultation with academic and practitioner partners, FCDO (Kenya, Bangladesh and Ethiopia Country Offices and CED), and government. The established work on poverty, water quality, climate resilience, private sector and gender will continue across all countries, tackling issues of international relevance for water security, aligning with existing FCDO investments.

Objective 1 – Expand work programmes in core countries to leverage opportunities to influence policy and practice

In Bangladesh, continued collaboration with the Prime Minister's Office's Chief Coordinator for SDG affairs will build on the pilot work on addressing the water quality pollution for Dhaka's 18 million residents. A model of water quality risks for the entire watershed will provide the technical basis to plan interventions and investments. This aligns with government priorities and an existing multi-stakeholder forum with the government, World Bank, IFC, industry (including UK interests). The work is seen as a potential model by UNHabitat for SDG6.3 for which they have the global mandate. In coastal Bangladesh, UNICEF and the Department for Public Health and Engineering have committed to co-support the design and testing of a safely managed water model to benefit extremely vulnerable populations aligned to FCDO-Bangladesh's work on coastal resilience. This work is also being piloted with the Departments of Primary Education and Secondary and Higher Education in 150 schools with the potential to scale-up if successful.

In Ethiopia, tools will be developed in collaboration with end users in the Ministry of Water, Irrigation and Electricity and Awash Basin Authority, in line with the demand expressed to operationalise the research. Tools will be based on a risk-based approach to water allocation for the Awash river basin that addresses the trade-offs between the growing industrial and urban centres, and small-scale livelihoods and household needs. Primary research with water users across the basin will reflect the risk and needs of various groups from industry through to the rural poor. Allocation tools will be responsive to climate variability inherent in the basin, supporting FCDO's investments in climate resilient WASH (HDD /FCDO-Ethiopia programme), and providing an interface for coordinated roles of water resources management and water supply. The tools will also support decisions on sequencing of investments, such as sustainable land management, dams, and industrial and municipal wastewater treatment.

In Kenya, the institutional and financial innovation of the FundiFix model and Water Services Maintenance Trust Funds in Kitui County will be strengthened through new work on water quality monitoring, geophysical analysis, drought risk analysis, and inequality and affordability analysis to shape global policy design working with UNICEF and USAID. Water quality work will advance understanding of opportunities for new technologies to inform faster responses to water quality challenges in distributed water supplies. Pathways to scale will be developed with national and county governments, UNICEF, private sector and NGOs. In Turkana, county government, UNICEF, national water regulatory and the drought management authority will engage in the design of an urban utility plan based on REACH's climate, hydrological, geophysical and socio-economic research to shape interventions to prioritise vulnerable and excluded groups. The geophysical modelling of the Napuu Alluvial Aquifer System, on which Lodwar town depends, has created significant interest and demand to guide county and national policy. Research to identify and increase engagement with women stakeholders in the water sector will be advanced, with methodologies to be trialled in Bangladesh and Kenya also.

Objective 2 – Build international collaboration on gender research in water security

Gender mainstreaming has proved challenging within many of the sectors involved in water security. REACH has delivered extensive work on gender and water security within its programme, learning a lot in the process of how to engage academic and practitioner partners in the process. REACH would use this

knowledge to advance gender research, building an international synthesis that can provide compelling evidence to influence policy makers. Two key areas of research are proposed to address gendered issues at different scales:

(1) Gendered implications of water development decisions. Water allocation and infrastructure investment decisions are often justified on economic development grounds. Water is allocated, and infrastructure developed, to support industrial growth, commercial development, and irrigation. The outcomes can create opportunities for livelihoods and employment, but they can also entrench inequalities. Analysis of the winners and losers from these decisions does not extend to the gendered impacts. Gendered impacts of allocation decisions have become evident in REACH's work to date: e.g. women are paid half as much as men for employment outside the home in construction, agriculture and industry. We will analyse the gendered implications of water development decisions, including water allocation, planning or infrastructure development. The overall shift for women from the investments in water use by agriculture and industry are not known, e.g. literature on women and irrigation focuses only on small scale irrigation, rather than considering the shift to large scale irrigation. This high-level work will build on REACH's work on gendered experiences of water security, across three countries, and develop a dedicated research programme to further investigate the impacts of water development decisions through a gender lens leading to policies that reduce the gender gap in these positive and negative impacts.

(2) **Intra-household decision-making: bargaining for productive and domestic water security.** Water security outcomes at the individual level depend on social inclusion at household and community level. Households make complex decisions around water use for domestic and productive uses. Extensive work on unpacking household decision-making has demonstrated that it is inappropriate to model the household as a single decision-making unit; bargaining models provide insights into the factors that affect the outcomes of household decisions, including income generating opportunities, ownership of assets and access to other resources, education levels, and laws and social norms. Recent work analysing the roles of joint ownership of assets and joint decision-making do not specify that ownership or decision-making is not shared equally between spouses. This research will look at household decisions around water use, particularly the uses for productive and domestic activities (including sanitation and hygiene), by developing a model of intrahousehold decision-making that incorporates individual preferences and control over income, taking account the quality, cost, and convenience of water from different sources, for different purposes. Control over income within the household is likely to impact which sources of water are used, particularly in contexts where water may be relatively expensive. Being able to negotiate within the household for the ability to use water for income-generating processes may then, in turn, affect who controls income.

Objective 3 – Manage and mitigate against water risks

Water security interventions commonly focus on infrastructure, without considering the funding and development needed to provide institutions that can sustain these investments. In Kenya, in the dry season and droughts, when demand for groundwater is highest, infrastructure failure has a devastating impact on local businesses and on the time and resources of the women who collect the water, and the families they provide for. In Bangladesh, investments in infrastructure continue to fail to provide institutions that manage the risks associated with unsafe drinking water, with long term and intergenerational health impacts. Government and market failure lead to slow and costly responses by not insuring against water risks through institutional, technological or financial innovations. Smart information systems and data analytics provide promising opportunities to rethink institutional models where government, private service providers and communities could collaborate in sharing risks to

protect the vulnerable with greater accountability in networked systems. Theoretical advances to determine new and more effective institutional arrangements between government, private sector and communities provide a framework for wider application and testing at scale. UNICEF support for developing condition monitoring for handpumps in Kenya through on-board and cloud computing indicate the opportunity for failure events to be eradicated working with social enterprises, like FundiFix. Bangladesh and Ethiopian governments wish to adapt and test similar smart system models. When linked to advances in water quality monitoring this will strengthen sustainable systems aligned to delivery of the SDG target of universal, safe and affordable water.

Objective 4 – Improve Monitoring, Evaluation and Learning procedures in water security through advancing metrics for household water security and women's empowerment

A new cross-culturally validated indicator for household water security has been developed by the HWISE (Household Water Insecurity Experiences) consortium (funded through FCDO via Innovative Methods and Metrics for Agriculture and Nutrition (IMMANA)). The metric uses psychosocial indicators to measure experience rather than infrastructure, enabling a simplified 12-question scale to be developed that can readily be integrated into household surveys. In the next phase REACH will implement this indicator, in collaboration with HWISE and with REACH's Empowerment in WASH indicator, (1) in household surveys in the Awash basin, Ethiopia, to test the assumptions that underpin water security programming about inequalities in experiences of water security interventions, and (2) for M&E purposes across relevant areas of the programme, enabling recommendations to be made to FCDO on the utility of these measures for evaluating their programming more broadly.

The additional deliverables from this contract amendment are:

Results expected from the scale up, mapped against REACH's current Key Performance Indicators and results to date are set out in the table below. The programme log frame will be updated with these results once the contract amendment is signed.

REACH Key Performance Indicators	**Results to 2018 review**	**Expected results – current funding**	**<u>Cumulative</u> results with scale up**
Concrete examples of improvements in water security influenced by REACH, considering aspects of and linkages between: (1) household water supply (2) water supply for livelihoods (3) national water security for growth and development, and (4) reduced water ecosystem risks: (a) That improve water security for # million poor people (b) Cumulative # of such success stories from policy to practice, and the impact on poor people Aligns with Impact indicator	Greater than 100,000 people with improved water security 3 success stories	Over 5 million with improved water security 20 success stories	Over 10 million with improved water security 25 success stories, with greater impact expected from success stories.
Policy and practice briefing materials produced (disaggregated by country, gender, target sector). (a) # produced (b) # that specifically address gender Aligns with Output indicator 1.3	15 policy and practice briefing materials produced 5 that specifically address gender	21 policy and practice briefing materials produced 11 that specifically address gender	30 policy and practice briefing materials produced 16 that specifically address gender
Cumulative number of open access peer reviewed articles, and working papers published (disaggregation by	10 open access peer reviewed articles, and	60 open access peer reviewed articles, and	80 open access peer reviewed articles, and working papers or policy briefings published

gender, nationality and experience of lead author and co-authors) Aligns with Output indicator 2.2	working papers published	working papers published	
# of papers in which gender is part of the analysis Aligns with Output indicator 2.3	4 papers in which gender is part of the analysis	30 papers in which gender is part of the analysis	40 papers in which gender is part of the analysis
Training for early career water security researchers (a) # of years of training for researchers (disaggregated by nationality, experience) (b) # of years of training for women researchers Aligns with Output indicator 1.2	82 years of training for researchers 42 years of training for women researchers	95 years of training for researchers 43 years of training for women researchers	120 years of training for researchers 60 years of training for women researchers Including extended training in achieving impact through stakeholder relationships
Evidence of REACH catalysing change on barriers to water security for poor women, men and children, in national policies, global sector programming, private sector approaches and investments, and research agendas; including in (a) integration of water supply and water resources management (b) understanding the link between water insecurity and poverty, and (c) proof-of-concept of new models, approaches and technologies that reduce water security risks. Aligns with Outcome indicator 1	1 change catalysed for understanding the link between water insecurity and poverty 6 new tool, models, and approaches that reduce water security risks	4 changes which have increased integration of water supply and water resources management 4 changes catalysed for understanding the link between water insecurity and poverty 6 new tool, models, and approaches that reduce water security risks	6 changes which have increased integration of water supply and water resources management 6 changes catalysed for understanding the link between water insecurity and poverty 9 new tool, models, and approaches that reduce water security risks

RESEARCH PROGRAMME CONSORTIUM

To achieve this, the programme will continue to be

- headed by Oxford University;
- led by an effective Director with demonstrable research management experience;
- informed by globally renowned research and communications expertise with Oxford University and externally;
- undertaken by the established partner network of the REACH programme with additional partners added if required under the existing contract flexibility;
- engaged with partner country national, local and municipal governments;
- delivered through systems and relationships for uptake and impact established over the last 4 years of REACH