**ANNEX 1. TERMS OF REFERENCE FOR INDIVIDUAL CONTRACTORS/ CONSULTANTS**

|  |  |  |  |
| --- | --- | --- | --- |
| PART I | | | |
| Title of Assignment | *Assessment of the market landscape for technology solutions to address climate resilience for the joint #UNDP UNICEF Tech4CR Project.* | | |
|  | ☒International | ☐National | |
| Contract Type | ☒Individual Consultant | ☐Individual Contractor (Part-Time / Full Time) | |
| Indicate level of consultancy | Mid-Level (P-3/P-4) | | |
| Hiring Section | WASH | | |
| Location | *Remote/ home-base* | | |
| Duration | *80days over 6 months* | | |
| Start/End date | **From:1-Feb-22** | | **To: 30-Jun-22** |

|  |  |  |
| --- | --- | --- |
| **Part** *II (this information is for INTERNAL use only; shall not be shared with candidates)* | | |
| Supervisor | *Dr. Samuel Godfrey, Regional Advisor, WASH* | |
| Planned Budget/Estimated Cost of assignment |  | |
| Budget Code | **240 R/AO/10/801/004/009** | |
| AWP Activity | *PCR/IR #* | |
| Proposed assignment is included in the approved ESARO Consultant Plan | ☒*Yes* | ☐*No* |
| Proposed methodology for sourcing of qualified candidates | ☒ Advertisement | ☐Expression of Interest |
| **Child Safeguarding** | | |
| Is this assignment considered an “[Elevated Risk Role](https://unicef.sharepoint.com/sites/DHR-ChildSafeguarding/DocumentLibrary1/Guidance%20on%20Identifying%20Elevated%20Risk%20Roles_finalversion.pdf?CT=1590792470221&OR=ItemsView)” from a child safeguarding perspective? | ☐Yes | ☒No |
| Is this a Direct contact role? | ☐ Yes # of hours per month? **Choose an item.** | ☒ No |
| Is this a child data role? | ☐ Yes # of hours per month **Choose an item.** | ☒ No |

|  |  |  |  |
| --- | --- | --- | --- |
| **PART III: Signatures** | | | |
| **Function** | **Name and Designation** | **Signature** | **Date** |
| Prepared by | *Farai Tunhuma, WASH Specialist* |  | **6/12/2021** |
| Reviewed | Dr. Samuel Godfrey, Regional Advisor, WASH |  | **8/12/2021** |
| Endorsed by | Regional Chief of Human Resources |  |  |
| Approved by | Deputy Regional Director |  |  |

**TERMS OF REFERENCE FOR INDIVIDUAL CONTRACTORS/ CONSULTANTS**

|  |  |  |
| --- | --- | --- |
| **PART I** | | |
| Title of Assignment | *Assessment of the market landscape for technology solutions to address climate resilience* | |
| Section | ESARO WASH | |
| Location | Eastern and Southern Africa region | |
| Duration | 80 Days over 6months | |
| Start/End date | **From:1-Feb-22** | **To: 30-Jun-22** |

**Background and Justification**

**#Tech4CR Flagship Initiative**

Climate change and natural disasters, combined with socioeconomic and political challenges overwhelm the ability of individuals in Africa to cope and adapt, thereby pushing them deeper into poverty. The New Economic Climate Report of 2018 recognizes that in order to change this trajectory, a drastic shift must be made within five key systems, notably: energy, cities, food and land use, water, and industry.

The result is devasting impacts on communities and, in particular, children who make up 62.9 per cent of the population of sub-Saharan Africa. These impacts are expected to intensify due to projected increase in occurrence and multiple changes in climatic impact drivers according to the IPCC’s Sixth Assessment Report - AR6, 2021.Developmental gains in education, for example, are offset due to damage or destruction of school facilities, escalating climate-sensitive disease incidents increase the risk of absenteeism and dropouts, while malnutrition and water stress could affect learning outcomes.

Taking cognisance of these challenges, UNICEF and UNDP are jointly supporting national governments in Africa to leverage innovation and technology for climate and socioeconomic resilience through a new Technology for Climate Resilience (#Tech4CR) flagship initiative. This initiative will support the application of innovation and technology for climate-resilient, affordable, and sustainable public sector services and infrastructure (healthcare, education, energy, water) delivery and promote sustainable cities and greener and more sustainable production systems (agriculture, food systems, etc). This will ensure that African countries remain on track and accelerate towards their achievement of the SDGs, in light of the global pandemic and climate change.

Under this initiative, the two UN agencies are combining their expertise, delivery mechanisms, and leadership in the areas of technology and climate resilience for strengthening climate change adaptation in public service delivery (i.e., water, education, health, energy, etc.) and promote more sustainable production systems (i.e., agriculture) in Africa. To achieve this end, the initiative has four pillars:

* Pillar I: Mapping and vetting sourcing ClimateTech solutions for localized use case development appropriate to the ESARO context, including but not limited to WASH, healthcare, education, energy access, and agriculture.
* Pillar II: Building a marketplace and brokering solutions to deliver innovative solutions for climate-resilient public services and livelihoods
* Pillar III: Supporting capacities to harness, incubate test and scale the use of emerging innovations and technologies for climate resilience
* Pillar IV: Designing investment cases for #Tech4CR programme roll out and upscaling

In this regard, UNICEF seeks the services of an experienced consultant who will carry out: i) a regionally contextualized baseline assessment of innovations and technologies that can inform pillars II-IV; ii) develop a shortlist of potential use cases for the #Tech4CR initiative; iii) undertake a market assessment for the shortlisted use cases; and iv) and design a strategy for Pillar I: Mapping and vetting innovations that can be rolled out as use cases for climate resilience. This activity will be carried out following UNICEF’s Office of Innovation’s Global Climate Landscape Assessment, ESA Regional Office Management Plan for 2022-25 (highlighting the climate response as a key focus areas) and in concurrent to the ongoing #Tech4CR program document development and therefore directly align to the development of pillars 2-3-4.

UNICEF and UNDP have robust approaches for sourcing innovations related to the SDGs and have worked with ranges of technology solutions integrated into their own programming and work with public sector partners. These include the UNDP Accelerator Labs, UNDP’s Africa Leading the Fourth Industrial Revolution, (4IR), UNICEF Office of Innovation and Tech4Development offices, UNICEF Africa Drone and Data Academy, UNICEF’s Satellite Groundwater Mapping for Sustainable Water Supply, and the ESARO Market Assessment for renewable energy for public service delivery. While Tech4CR is expected to draw from best practices from these innovation sourcing approaches already being utilized in UNDP and UNICEF programming, climate change adaptation requires a fresh approach to sourcing solutions that meet the evolving and rapidly developing challenges posed by climate change. In addition, ClimateTech itself is fast growing market where solutions require market development, capacity building and investment support to reach scale at a pace where their application can result in adaptation.

While ClimateTech investment is also a growing area, ensuring that the solutions are human-centred and based on pro-poor development models is necessary for this region as to ensure that investment in climate innovation does not further exacerbate inequities in access to basic services and/or result in maladaptation. In addition to Therefore, the aim of this consultancy will be to take stock of existing UNICEF-UNDP mechanisms as benchmarked with external innovation mapping and vetting processes, to result in developing a new process for Tech4CR. At the same time, the consultancy will lead to an initial scoping of technology innovations in the region, as resulted from testing and refining the approach. These technology solutions scoped in the assessment may become early use cases when the programme implementation begins.

The Pillar I approach to be designed should enable UNICEF and UNDP to rapidly map and vet innovative solutions – loosely categorized at ideation, prototype, and scale up/implementation – and identify what type of capacity, investment and profiling is needed to mainstream these as climate resilience-building solutions into WASH, healthcare, education, energy access, agriculture and other sectors. This will also require an initial definition of the climate change issues for these sectors as a filter for identifying and matching the innovative solutions required. The mapping process should also define parameters for solutions that can be considered, for example: previous application or results; affordability; local production capacity; resilience benefits; cost reductions at scale; alignment with international quality standards; energy efficiency, etc. There is also an opportunity to vet solutions that have not yet been applied to climate change affected public services, however, through Tech4CR can receive technical assistance and support to incorporate this sector and issue area as a use case (business case) for their implementation. For these types of solutions, the innovation approach should give appropriate rationale for their selection.

***Explain why a consultancy is required and address this question****.*

The unique skill sets (innovation for development, climate resilient technologies and innovation market assessment), required for this assignment, are not common in regular UNICEF staff functions. In addition this programme requires rapid deployment of the resource in order to meet the intended objectives within the allocated time frame, hence the need for a consultant.

**Scope of Work**

1. ***Goal and Objective*:** Under the supervision of the Regional Advisor, WASH, the consultant will conduct a market assessment and design an innovation approach for #Tech4CR: Pillar 1 to enable UNICEF and UNDP to rapidly assess the shortlisted innovations and technology. The consultant will take stock of existing innovation processes and sourced solutions from UNICEF and UNDP, to understand alignment with potential climate change resilience for public service delivery challenges; and design a technology innovation sourcing process or approach that will be incorporated into the #Tech4CR programme document. The assignment is required to test and refine the approach to innovation approach during the assignment, to result in a list of early, high-value technology and innovation opportunities in the region that may serve as use cases for #Tech4CR implementation.

The objectives of the assignment are to:

* Take stock and assess information on current UNICEF, UNDP and external practices related to innovation identification, sourcing and implementation.
* Design a new process that responds to mapping and vetting innovative solutions for climate resilience in public service delivery.
* Test and refine the innovation approach to result in an initial vetting of innovative solutions that can meet the Tech4CR program objectives.
* Based on ongoing work within the countries identify 2-3 potential use cases for testing the proposed process for identifying and sourcing technology.
* Identify potential partnerships required for rapid scale up for exploration by UNDP and UNICEF.
* Make recommendations on how UNICEF and UNDP can support taking climate innovation to market and scale up investments in this area

1. ***Provide details/reference to AWP areas covered:*** *Explain briefly how this assignment links to the AWP/IR number.*

UNICEF Climate Change Risk Index (CCRI) indicates that children and adolescents in all 21 countries in East and Southern Africa live in high or medium risk of environmental, social and health impacts of climate change. The ESA region is affected by several climate change hotspots where strong physical, psychological, and ecological effects of climate change come together with large populations of poor and vulnerable communities. This work links to the region’s focus area of climate and is implemented under the Climate and Environment Pillar.

1. ***Activities and Tasks:***
   1. **Task 1: Take stock and assess information on current UNICEF, UNDP and external practices related to innovation sourcing; (30%).**
      1. Carry out a desk review of existing data, strategies, and methodologies relevant to UNICEF and UNDP innovation approaches as aligned with Tech4CR objectives.
      2. Catalogue existing UNICEF and UNDP technologies and innovations that could apply to climate resilience building, and provide detailed definitions and descriptions of their technologies and impact
      3. Building on the Climate Innovation Landscape Assessment from UNICEF’s global Office of Innovation, carry out a regional desk review of the climate innovation landscape to source trends, opportunities and procurement approaches that may be relevant for Tech4CR.
      4. Perform follow-up calls and discussions with relevant UNICEF, UNDP and external stakeholders who have been involved with innovation sourcing and/or climate resilience solutions related to public service delivery (including but not limited to: UNICEF Innovation Portfolios; Principles for technology, innovation and Digital Development; Digital Public Goods.)
      5. Document other initiatives and their mechanisms for addressing climate resilience in public service delivery, including their abilities to scale solutions after initial identification (i.e., technical assistance, investment, capacity building, etc)
      6. Define key challenges related to public service delivery as impacted by climate change in East and Southern Africa. Detail existing and upcoming technology, innovation and digital solutions that have responded to these challenges.
   2. **Task 2: -Design a new innovation process that responds to mapping and vetting Africa-based technology solutions for climate resilience in public service delivery; (40%).**
      1. Through analysis of the above data and interview feedback, design a new innovation process to be used in Pillar 1 of #Tech4CR.
      2. Recommend a similar or separate process for identifying how post-pilot existing UNICEF/UNDP projects can scale up and address climate resilience through the integration of technologies, with recommendations of types of technologies to consider
      3. Hold internal consultations with the core #Tech4CR teams and relevant UNDP and UNICEF innovation colleagues to receive feedback on the designed process for consolidation and alignment with potential relevant existing processes.
      4. Carry out consultations with 2-3 country offices to ensure the innovation mapping and vetting process is locally contextualized and includes local knowledge and best practices
      5. Provide detailed guidelines and presentations to explain and operationalize the process, including key risks, timelines, and potential value-added partnerships.
      6. Define key parameters for activities post-scoping as related to entry into pillars 2, 3, and 4.
      7. Within the implementation timeline for #Tech4CR over a six-year period, propose key dates or milestones to continue scoping through the approach to systematically source new innovations.
   3. **Task 3: Test and refine the innovation approach to result in an initial scoping and mapping of innovative solutions that can meet the program objectives. (20%).**
      1. Based on the process defined in task 2, pilot the process in the region to source tech innovations that respond to climate resilience building in the public sector.
      2. Shortlist several internal UNDP and UNICEF post-pilot activities, to also vet under this process and recommend solutions that can enhance their affordable and rapid scale up.
      3. Ensure that innovations recommended meet the criteria and parameters set in task 2.
      4. Develop an assessment review sheet or template which provides space for recommendations for support into each pillar.
      5. Following the pilot, refine and update the process to result in a final process and initial scoping list or report for early implementation.
      6. Document best practices learned from the pilot and from industry standards in a short recommendations report for #Tech4CR.
      7. Identify additional entry points and make recommendations for improved climate resilience-building for public service delivery in the region.
      8. Provide costing and prefeasibility information for use cases proposed
   4. **Task 4: Recommendations how UNICEF and UNDP can support taking ClimateTech to market and scale up investments in this area (10%)**
      1. Develop a roadmap for innovations sourced in Pillar 1 and their evolutions through pillars 2-3-4, in consultation with experts developing the overall program document
      2. Create a strategic guidance note on UN agencies' roles in the climate and innovations ecosystems including recommendations to both agencies on how to bring solutions to market and attract investment from this space
      3. Design an additional brief concept note for high opportunity interventions related to the design of Tech4Climate Resilience, as recommended as a result of the scoping from this assignment
2. ***Work relationships:***

The Consultant will be supervised by the WASH Regional Advisor at the UNICEF Eastern and Southern Africa Office (ESARO) in Nairobi, Kenya but working remotely. The Consultant will report to the UNICEF Climate and WASH Specialist, with Matrix reporting to UNDP’s Resilience Hub. Her/his work will be conducted in collaboration with and integrated into the different thematic teams within the UNICEF and UNDP Core #Tech4CR Team.

1. ***Outputs/Deliverables:***

|  |  |  |  |
| --- | --- | --- | --- |
| **Deliverables** | **Duration**  **(Estimated # of days or months)** | **Timeline/Deadline** | **Schedule of payment** |
| Inception Report (including detailed time schedule, milestones, working methodology /approach to achieve the tasks) | 10 day | 15th February 2022 | 15% payment upon receipt of final deliverable |
| Task 1 Report: Desk review and stakeholder interview content | 15 days | 31st March 2022 | 20% payment upon receipt of final deliverable |
| Task 2: Innovation Sourcing Design document including guidelines and parameters for innovation sourcing and preliminary use case proposals. | 25 days | 30th April 2022 | 30% payment upon receipt of final deliverable |
| Task 3: Refined (final) Innovation sourcing design and initial scoping and demonstration of tech solutions for climate resilience in the region and shortlist of potential use cases; costing and pre-feasibility. | 20 days | 31st May 2022 | 20% payment upon receipt of final deliverable |
| Task 4: Guidance note including recommendations on UN agencies’ and climate innovations. Include annex of brief concept note related to high impact areas | 10 days | 30th June 2022 | 15% payment upon receipt of final deliverable |

The contractor will be required to provide and deliver the following:

* **An inception report** - including methodology, timeline, preliminary interview list and reference to documents to be reviewed in the desk review. This information will be presented in an inception meeting with focal points from priority sectors.
* **Task 1, 2, 3 and 4 reports** - All data collected under this assignment will be formatted appropriately and delivered conjointly to the reports under the forms of regional data packages.
* **Presentations to key stakeholders** – The consultant is required to present and validate their work to the core #Tech4CR team and be available for feedback and amendments to ensure the process aligns with the program document standards.

All reports, together with the required reporting guidelines and deadlines for submission are listed above. All reports should be written in English, single spacing font size 11 Times New Roman and submitted as both word and pdf versions. UNICEF will provide template guidelines for each report and case study to ensure it meets the branding and publication requirements. ESARO will review draft reports for quality assurance and provide feedback on the deliverables within 10 working days. Payments will only be made upon successful review and deliverable sign-off by UNICEF.

**Payment Schedule**

*As per output and deliverable table above.*

**Desired competencies, technical background, and experience**

1. **Education:** At least a Master’s degree in the fields of engineering, development studies, economics, technology, or appropriately similar qualifications with significant experience in technology for development and/or climate-resilience.
2. Five 5-8 years’ experience in innovation design (including human-centred design) processes.
3. Background in implementing innovation projects, tech-to-market development, assessing innovation process and building strategies for implementation, designing innovation sourcing processes for third party organizations, and hands on experience integrating technology into public service delivery are desired.
4. Excellent knowledge on innovation for development through training and/or education.
5. Excellent analytical and drafting skills are required with proven experience in report writing in English.
6. Previous experience with the UN, National and Regional entities, as well as with donors is desirable.
7. Previous experience with the private sector and on innovation is desirable.
8. **Languages Needed:** Full proficiency both oral and written English. Fluency in French and/or Portuguese is desirable.
9. Must exhibit the **UNICEF Core Values** of:
   1. Care
   2. Respect
   3. Integrity
   4. Trust
   5. Accountability
10. **Core Competencies**:
    1. Demonstrates Self Awareness and Ethical Awareness
    2. Works Collaboratively with others
    3. Builds and Maintains Partnerships
    4. Innovates and Embraces Change
    5. Thinks and Acts Strategically
    6. Drives to achieve impactful results
    7. Manages ambiguity and complexity

**Administrative issues**

The contract will be issued by UNICEF Eastern and Southern Africa regional Office (ESARO). The Focal Person for all communications is the Regional WASH Advisor. The Consultant will liaise with UNICEF for any matters regarding the contract management. The consultation will mainly be virtually and therefore availability during the working hours of UNICEF Regional Office in Nairobi (0800 – 1700 EAT) is required. The consultant will seek inputs from and regularly liaises with the UNICEF regional WASH Advisor for all important matters related to the assignment throughout the period of its implementation. UNICEF will facilitate contacts with UNDP, the Country Offices and other relevant UNICEF initiatives. The consultancy is expected to start in 1st of February 2022 and run for a period of 5 months from the date of signing the contract. ESARO will review draft reports for quality assurance and provide feedback on the deliverables within 10 working days.

**Conditions**

* All travel (in case of any) will be by most economical fare and reimbursement will be as per UNICEF policy,
* “As per UNICEF DFAM policy, payment is made against approved deliverables. No advance payment is allowed unless in exceptional circumstances against bank guarantee, subject to a maximum of 30 per cent of the total contract value in cases where advance purchases, for example for supplies or travel, may be necessary”.
* Individuals engaged under a consultancy or individual contract will not be considered “staff members” under the Staff Regulations and Rules of the United Nations and UNICEF’s policies and procedures and will not be entitled to benefits provided therein (such as leave entitlements and medical insurance coverage). Their conditions of service will be governed by their contract and the General Conditions of Contracts for the Services of Consultants and Individual Contractors. Consultants and individual contractors are responsible for determining their tax liabilities and for the payment of any taxes and/or duties, in accordance with local or other applicable laws.

**Risks**

No risks are foreseen for this assignment as it will be largely desktop analysis and remote working.

**How to Apply**

Qualified candidates are requested to submit a cover letter, CV, P11 form and their technical proposals to the online recruitment portal (Talent Management System) or email provided.

Interested candidates to indicate ability, availability, and rate (daily? monthly?) expressed in US$ for international or KES for national consultancy or individual contractor contract to undertake the terms of reference.

**Applications submitted without a fee/ rate will not be considered.**