REQUEST FOR EXPRESSIONS OF INTEREST (CONSULTING SERVICES – INDIVIDUAL CONSULTANT SELECTION)

Thailand
Climate Adaptation and Resilience for South Asia (CARE) Project
Loan No./ Credit No./ Grant No.: IDA-D6220

Assignment Title: Individual Consultant – Data Analyst (Water Sector) - Regional
Reference No. (as per Procurement Plan): TH-RIMES-206262-CS-INDV

The Regional Integrated Multi-Hazard Early Warning System (RIMES) has received/has applied for financing from the World Bank toward the cost of the Climate Adaptation and Resilience for South Asia (CARE) Project and intends to apply part of the proceeds for consulting services.

The consulting services ("the Services") include individual consultant - Data Analyst (Water Sector) – Regional who is responsible for collecting, interpreting, analyzing, and transforming regional water and climate data into useful information for 8 countries in the SAR region in collaboration with the RDAS System Development Team; supports the development team in analyzing and interpreting water data and subsequently providing recommendations on the design and development of the RDAS platform and associated capacity building/trainings for users; and develop reports as per project requirement.

The detailed Terms of Reference (TOR) for the assignment are attached to this request for expressions of interest.

The Regional Integrated Multi-Hazard Early Warning System (RIMES) now invites eligible individual consultant ("Consultants") to indicate their interest in providing the Services. Interested Consultants should provide CV demonstrating that they have the required qualifications and relevant experience to perform the Services. The shortlisting criteria are: at least master's degree in hydrology, hydro informatics, water engineering management, water resources management or related fields; at least 5 years of experience in hydrology, water resources management, and flood/drought risk management; at least 5 years of experience working with water sector for assessing data and information requirements for designing and operationalizing water sector DSS; proficiency with statistical tools and scripting language, including Python or R, MATLAB etc.; experience with hydrological and hydraulics models and model integration frameworks (e.g., BMI, Delft-FEWS, HEC-RTS); experience in handling climate datasets of different formats and independently performing quality checks on the datasets; strong math, science, or engineering background to calibrate and validate hydrologic models; and experience in conducting trainings/capacity building programs in water sector.

The attention of interested Consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank's "Procurement Regulations for IPF Borrowers" July 2016 ("Procurement Regulations"), setting forth the World Bank's policy on conflict of interest.

A Consultant will be selected in accordance with the individual consultants method set out in the Procurement Regulations.

Further information can be obtained at the address below during office hours 0800 to 1700 Bangkok Standard Time.

Expressions of interest must be delivered in a written form to the address below (in person, or by mail, or by fax, or by e-mail) by January 21, 2022

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TERMS OF REFERENCE
Data Analyst (Water Sector) – Regional

1. About RIMES

The Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES) is an international and intergovernmental institution that is owned and managed by its 48 Member and Collaborating States for building capacities in the generation and application of user-relevant multi-hazard early warning information. RIMES was established on 30 April 2009 through the signing by collaborating countries of the RIMES regional cooperation agreement. RIMES was registered with the United Nations under Article 102 of the UN Charter on 1 July 2009. RIMES operates from its regional early warning center, located at the campus of the Asian Institute of Technology in Pathumthani, Thailand.

RIMES' purpose is to provide early warning services according to differing needs and demands of its Member States, for enhanced preparedness and response to and mitigation of natural hazards. Its specific objectives are:

a) Facilitate the establishment and maintenance of core regional observing and monitoring networks to ensure data availability for early warning;
b) Provide earthquake and tsunami services within the framework of the Intergovernmental Oceanographic Commission of the United Nations Educational, Scientific and Cultural Organization (IOC-UNESCO);
c) Support National Meteorological and Hydrological Services (NMHSs) for providing localized hydro-meteorological risk information within the framework of the World Meteorological Organization (WMO); and
d) Enhance warning response capacities at all levels (national to community) within each national early warning framework.

RIMES provides a portfolio of options for Member States to avail from or contribute to any of these objectives.

2. Background

Socio-economic impacts of climate-related hazards in South Asian countries continue to threaten the countries' economic growth, particularly in key sectors such as agriculture, water, and infrastructure. During the 16th Summit of the South Asian Association for Regional Cooperation (SAARC) in 2010, these countries collectively resolved to strengthen climate resilience. The Climate Adaptation and Resilience for South Asia (CARE) Project aims to contribute in translating this policy into actions through enhanced regional cooperation and knowledge on climate resilience and adaptation, and development of standards and guidelines to facilitate climate-resilient planning and investments.

The Project's Development Objective is to create an enabling environment for climate-resilient policies and investments across South Asia, with the following indicators:

- Increased access to regional climate data and analytics for climate-informed decision-making;

- National-level decision-making and planning that are better climate risk-informed;
- Regional climate resilience guidelines incorporated into national standards;
- Sectoral investments supported to include climate risks and resilient design; and
- Institutional capacities strengthened to undertake climate-informed policies and planning.

The project has three components, for implementation over 5 years:

1) Promoting evidence-based climate-smart decision-making, to enhance access to data required for risk-informed planning and investments;
2) Enabling climate-resilient policies and standards for development, to enhance transformation of policies and capacities for climate resilience and adaptation across South Asia; and
3) Project management and implementation support.

Component 1 shall be implemented by RIMES. This component involves the creation of a regional resilience data and analytics service (RDAS) platform and decision-support systems (DSSs) for selected sectors of agriculture, water, road transport, planning and finance in Bangladesh, Nepal, and Pakistan. Component 1 also includes capacity development of users of these systems and their products. The RDAS is a cloud-based open-access platform for acquiring, storing, managing, processing, analyzing, visualizing, and reporting data, for use in screening climate risks to inform investments while the DSSs are sector-specific systems linked to the RDAS, and used to assist users in sectoral planning and decision-making.

The RDAS will be a public-domain cloud-based and AI-enabled data and analytics platform that will leverage a range of available data and analytical services of relevance to climate-smart development in the South Asia region. It is expected to enable South Asian countries to make climate-informed decisions and policies for climate resilience, based on more accurate and downscaled data and analytics. The RDAS, in addition to existing climate-related observation and early warning systems in the region, will also support overlaying of different data sources, across climate and socio-economic parameters, to specify hotspots of climate vulnerability across different sectors and timescales, and to support planning and investment decision making. The RDAS will leverage existing data systems in countries and sectors; will deploy tools for analysis and interpretation of global and regional circulation models; and generate tailor-made downscaled information scenarios for all SAR countries. As a dynamic platform, it will respond to evolving data needs from sectors and generate, curate and host new climate and thematic data.

3. Objective

The Data Analyst (Water Sector) - Regional, reporting to the RDAS-DSS Lead, is responsible for collecting, interpreting, analyzing, and transforming regional water and climate data into useful information for 8 countries in the SAR region in collaboration with the RDAS System Development Team. S/he will support the development team in analyzing and interpreting water data and subsequently providing recommendations on the design and development of the RDAS platform.

4. Scope of Work

The Data Analyst (Water Sector) – Regional will manage, interpret, and analyze relevant water sector data, and develop reports as per project requirement. This includes leading and/or assisting in the following tasks:

- **Sector-specific data analysis**
    - Review, collect/update and manage relevant data for water sector (e.g., weather, climate, hydrological (water level, discharge etc.), topographic, bathymetric and land use data)

- Quality check, analyze, interpret and transform these data into usable information for countries in South Asia Region (e.g., Flood Frequency Analysis, Intensity-Duration-Frequency curves, double mass analysis, flow duration curve, flood hazard maps, drought risk maps etc.)
- Identify key institutions in the water and environment sectors and their climate-sensitive plans and decisions which could benefit from integration of climate information
- Develop new or improve existing hydrologic, and hydrodynamic models for relevant river basins of SAR
- Develop flood hazard, impact and risk maps using ground and satellite-based observation datasets and hydrodynamic modeling
- Focus on modeling with powerful predictive tools (e.g., deep learning); and build system efficiencies through collaborative data workflow and data visualizations
- Contribute to the conceptualization/development of capacity building tools/materials for addressing gaps and/or current mechanisms at informing climate-sensitive plans and decisions in water sector
- Conduct training programs for hydrologic and hydrodynamic modeling, flood forecasting and use of DSS in water sector
- Provide inputs to DSS development for water sector for countries in SAR
- Undertake other responsibilities as may be assigned by the Technical Lead and/or the Project Director

- **RDAS Development**
  - Based on analysis of current capacities and gaps at integrating climate information to policies, practices and development instruments and initiatives in the water sector, provide inputs and recommendations to RDAS design and development
  - Develop metrics for linking climate indicators to water resources management and flood forecasting
  - Analyze the anticipated environmental impacts and make recommendations report to guide the RDAS development
  - Participate in discussions, meetings, and consultations with targeted stakeholder ministries/agencies
  - Undertake other relevant work as assigned by the Technical Lead and/or the Project Director.

5. Deliverable Requirement:

Deliverables	Tentative Submission Schedule
Deliverable 1: Monthly progress reports	Monthly basis; first month is within 30 days after contract effective date.
Deliverable 2: Regional and national data for water sector analyzed and transformed into useful information for 8 countries in the SAR region.	Within three (3) Months after contract effective date.
Deliverable 3: Recommendations to RDAS and DSS system development.	Within six (6) Months after contract effective date.
Deliverable 4: Final report/s on sectoral data assessment and integration into RDAS.	Final report within 30 days after completion of the tasks.

6. Qualifications

Knowledge

- Master's degree in hydrology, hydro informatics, water engineering management, water resource management or related fields
- Demonstrated skill as data analyst, especially in water sector.

Experience

- At least five (5) years of experience in hydrology, water resource management, flood risk management, drought risk management.
- At least five (5) years of experience working with water sector for assessing data and information requirements for designing and operationalizing water sector DSS.
- Proficiency with statistical tools and scripting language, including Python or R, MATLAB etc.
- Experience with hydrological and hydraulics models and model integration frameworks (e.g., BMI, Delft-FEWS, HEC-RTS)
- Experience in handling climate datasets of different formats and independently perform quality checks on the datasets.
- Strong math, science, or engineering background to calibrate and validate hydrologic models
- Experience in conducting training and capacity building programs in water sector

Skills and abilities

- Proficiency in spoken and written English language
- Excellent analytical skills and problem-solving ability
- English proficiency in communication, presentation, notes taking, and report writing

Personal qualities

- Self-motivated, with ability to prioritize work, manage changing priorities and meet deadlines
- Flexibility and ability to work effectively independently and as part of a team
- Takes ownership of all responsibilities of the position
- Excellent work ethic and ability to work with constructive attitude in multi-cultural setting

7. Reporting

The Data Analyst (Water Sector) – Regional will work under the direct supervision of the RDAS-DSS Lead and/or Project Director. S/he will be based in RIMES Office in Thailand.

8. Contract Duration

The contract will be for 4 years subject to a 6-month probationary period, and annual performance review.