

# **REQUEST FOR EXPRESSIONS OF INTEREST (CONSULTING SERVICES - INDIVIDUALCONSULTANT SELECTION)**

## **Thailand**

### **Climate Adaptation and Resilience for South Asia (CARE) Project**

Loan No./ Credit No./ Grant No.: IDA-D6220

#### **Assignment Title: Individual Consultant – IT Expert - Nepal**

**Reference No.** (as per Procurement Plan): TH-RIMES-266606-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 – IT Expert - Nepal who is responsible for assisting in the enhancement/development, maintenance and upgrading of DSSs and data portals across relevant sectors/institutions in Nepal. S/he will also assist and monitor the DSSs development work in Nepal.

The Terms of Reference (TOR) for the primary procurement stage for the assignment are attached to this request for expressions of interest or can be found at the following website: [www.rimes.int](http://www.rimes.int) and [https://www.rimes.int/?q=procurement\\_notices](https://www.rimes.int/?q=procurement_notices) or via the address given below.

The Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES)  
2nd Floor, Outreach Building,  
Asian Institute of Technology Campus,  
Klong Nung, Klong Luang, Pathumthani 12120  
Thailand

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 preferably master’s degree in Computer Science, or Engineering, Information Communication and Technologies, Information Management or related fields; extensive knowledge of data processing, and enterprise software applications; strong technical knowledge of systems networking, databases, and web development; strong backend development skills, preferably Python (Django) or Node (Express) or PHP (Laravel); proven and demonstratable experience in frontend development with Angular/HTML5, any other framework based on JS; experience in diverse database design (MySQL, Microsoft SQL, PostgreSQL, and NoSQL); knowledge of data management and visualization analytics like D3.js, Tableau, or Vega; adequate experience in various Linux/Unix distribution platforms; knowledge of handling API based services, geographical data formats like GeoJson, ESRI Shape files, for development of dynamic data visualization platforms; and knowledge of Cloud services and platforms such as Hadoop, Azure, Google Earth Engine, etc.

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 and to be specifically set out in the Request for Expressions of Interest (REoI).

Further information can be obtained at the address below during office hours 08:00 to 17:00 hours Bangkok Standard Time.

Expressions of interest must be delivered in written form to the address below (in person, or by mail, or by fax, or by e-mail) by July 28, 2022.

The Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES)

Attn: Dusadee Padugkul, Head, Operation Support Department

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## **Regional Integrated Multi-Hazard Early Warning System**

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### **TERMS OF REFERENCE IT Expert – Nepal**

#### **1. 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 16<sup>th</sup> 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 to 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 is implemented by RIMES. This component involves the creation of a regional resilience data and analytics service (RDAS) and decision-support systems (DSSs) for selected sectors of agriculture, water, road transport, planning and finance, and disaster management 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. The DSSs are sector-specific systems, linked to the RDAS, for assisting users in sectoral planning and decision-making.

The country-specific activities planned for Nepal are as follows:

- Development and integration of Flood Impact DSS and weather forecast verification and bias correction, among others, for DHM;
- Improved dataflows and functionalities of existing Agriculture Management Information System (AMIS) for Ministry of Agriculture and Livestock Development;
- Development of an integrated portal for DoR and DoLI, integrating climate information/hazard/risk assessments for resilient rural/local roads network;
- Improved MoF's PFM information system for climate budget allocation, tracking expenditure, monitoring sustainability and assessing investment results in climate-related sectors
- Development of multi-hazard early warning DSS for NDRRMA

## 2. Objective

The IT Expert - Nepal, based in Kathmandu and reporting to the RDAS/DSS Lead/Project Director, is responsible for technical monitoring of DSSs development/enhancement and/or customization for use by sectoral users. S/he helps maintain, assess and update these systems.

## 3. Scope of Work

The IT Expert is expected to assist in the enhancement/development, maintenance and upgrading of DSSs and data portals across relevant sectors/institutions in Nepal. S/he will also assist and monitor the DSSs development work in Nepal. This includes leading and/or assisting in the following tasks:

- a) Processing, quality checking and developing data warehouse for data archival and retrieval
- b) Performing data analytics, machine learning and big data analysis
- c) Conducting data mining and collection procedures
- d) Ensuring data quality and integrity, and interpreting and analyzing data problems/issues
- e) Conceiving, planning, and prioritizing data projects, and visualizing data
- f) Building analytic systems and predictive models
- g) Testing performance of data-driven products
- h) Experimenting with new models and techniques
- i) Aligning data projects with organizational goals, processes, standards, and quality practices
- j) Assuring system and product reliability, scalability, extensibility, security, and performance
- k) Managing risks and issues identified or may arise on developed systems, products, and processes
- l) Ensuring timely delivery, documentation and reporting on progress of systems, products, and processes
- m) Together with relevant members of CARE Component 1 Team, consulting with relevant government authorities on the appropriateness and sustainability, and capacity building requirements for maintenance and operationalization, of relevant DSSs

## 4. Qualifications

### *Knowledge*

- Preferably Master's degree in Computer Science, or Engineering, Information Communication and technologies, Information Management or related fields
- Extensive knowledge of data processing, and enterprise software applications
- Strong technical knowledge of systems networking, databases, and web development

### *Responsibility*

- Support in designing and developing efficient web-based application
- Conducting research and formulating new/innovative ways to support system development
- Processing, analyzing and visualization of data in web platform from various weather and climate models
- Identifying options for potential solutions and assessing them for integration into the decision support system context
- Building innovative automation processes and system integration tools

### *Experience*

- Strong backend development skills, preferably Python (Django) or Node (Express) or PHP (Laravel)
- Proven and demonstrable experience in frontend development with Angular/HTML5, any other framework based on JS
- Experience in diverse database design (MySQL, Microsoft SQL, PostgreSQL, and NoSQL)
- Knowledge of data management and visualization analytics like D3.js, Tableau, or Vega

- Adequate experience in various Linux/Unix distribution platforms
- Knowledge of handling API based services, geographical data formats like GeoJson, ESRI Shape files, for development of dynamic data visualization platforms
- Knowledge of Cloud services and platforms such as Hadoop, Azure, Google Earth Engine, etc.

*Skills and abilities*

- Demonstrable leadership abilities
- Excellent analytical skills and problem-solving ability
- English proficiency in communication, presentation, and report writing

*Personal qualities*

- Self-motivated, with ability to prioritize work, meet deadlines, and manage changing priorities
- Flexibility and ability to work hard independently and in a team
- Takes ownership of all responsibilities of the position
- Excellent work ethic

## **5. Reporting**

The IT Expert in Nepal will work under the direct supervision of the RDAS/DSS Lead, based in Bangkok. S/he will also report to the Project Director, also based in Bangkok, who will monitor the quality of deliverables. Payments will be made based on deliverables and monthly time sheet, approved by the RDAS/DSS Lead and Project Director.

## **6. Contract Duration**

The contract will be for 1 year subject to a 6-month probationary period, and annual performance review.