

# **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 – CS-INDV / Climate Impact Expert - Agriculture, Balochistan, Pakistan**

**Reference No.** (as per Procurement Plan TH-RIMES-378785-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 an individual consultant – Climate Impact Expert - Agriculture, Balochistan, Pakistan who is support the CARE Component 1 Pakistan Team in customizing the Balochistan Agro-Meteorological Advisory System, to respond to stakeholders' requirements.

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) 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:

#### *Knowledge:*

- At least Master's Degree in Agricultural Science, Environmental Science, Climate Science, or a related field
- Knowledge of modelling of weather/climate impacts on crops/agriculture /generation of agromet advisories
- Knowledge of different components of Operational Agromet Advisory Services System
- Knowledge of agriculture in Balochistan, including climate sensitivities and risks, coping mechanisms vis-à-vis climate hazards/disasters, climate-resilient agriculture policies, and others relevant

#### *Experience:*

- At least 15 years of experience in research on weather/climate impacts on

crops/agriculture; experience in modelling weather/climate impacts on crops/agriculture is preferred

- At least 15 years of experience in working with government and/or development institutions in Pakistan in providing operational/development planning guidance in weather/climate-informed planning and decision-making in crops/agriculture
- Work experience with farmers and/or agriculture institutions of the Province of Balochistan is desired
- Publications on climate impacts on crops/agriculture is an advantage

*Skills and abilities:*

- Demonstrate ability to digest complex technical information and convey them in easy-to-understand forms to a variety of stakeholders
- Strong written and verbal command of Urdu and English languages

*Personal qualities:*

Excellent analytical and problem-solving skills; demonstrated ability to plan and organize work independently; excellent interpersonal and communication skills; high commitment to responsibility and work quality; ability to work effectively and efficiently independently and/or within a multi-cultural team; openness/receptiveness to critique for enhancing work and outputs.

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 October 9, 2023.

The Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES)  
Attn: Dusadee Padungkul, Head, Operational Support Department  
2nd Floor, Outreach Building, Asian Institute of Technology Campus,  
Klong Nung, Klong Luang, Pathumthani 12120, Thailand  
Tel: +662 516 0120 Fax: +662 516 5762  
E-mail: [rimessprocurement@rimes.int](mailto:rimessprocurement@rimes.int)



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

### **Program Unit/ Early Warning Facility**

2<sup>nd</sup> Fl. Outreach Bldg., Asian Institute of Technology Campus, P.O. Box 4 Klong Luang, Pathumthani 12120, Thailand  
(t) +66 2524 5902 (f) +66 2524 5906 (e) rimes@rimes.int (w) <http://www.rimes.int>

## **TERMS OF REFERENCE**

### **Climate Impact Expert - Agriculture, Balochistan**

#### **1. About RIMES**

The Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES) is an international and inter-governmental 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, for resources and risks management. 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 Headquarters operates from its regional early warning center, located at the campus of the Asian Institute of Technology in Pathumthani, Thailand. RIMES has established a country office in Pakistan, located within the premises of the Pakistan Meteorological Department (PMD) in Islamabad.

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 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, supported by the World Bank, 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.

Component 1, implemented by RIMES and focused on promoting evidence-based climate-smart policies and investments across South Asia, aims to buttress CARE's PDO through:

- 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;
- institutional capacities strengthened to undertake climate-informed policies and planning.

This component involves the development of a regional Resilience Data and Analytics Services (RDAS)<sup>1</sup> for South Asia Region (SAR), and decision-support systems (DSSs)<sup>2</sup> for selected sectors of agriculture, water, transport, planning, and disaster risk management in Bangladesh, Nepal, and Pakistan. Component 1 also includes capacity development of users of these systems and their products, and supports the South Asia Hydromet Forum (SAHF)<sup>3</sup>, for a holistic approach at user-centric generation and application of climate information in plans and decisions.

### 3. Objective

The objective of this consulting service is to support the CARE Component 1 Pakistan Team in customizing the Balochistan Agro-Meteorological Advisory System, to respond to stakeholders' requirements.

### 4. Scope of Work

**The Climate Impact Expert - Agriculture, Balochistan** will report to the CARE Component 1 Project Director, with technical supervision of the Digital Systems and Data Integrator and RIMES Climate Applications Specialist; and in coordination with RIMES Country Program Lead/CARE Country Coordinator for Pakistan and the CARE Component 1's Systems Development Team for Pakistan. He/she shall have the following specific tasks:

- Provide a comprehensive analysis of potential impacts of weather/climate conditions, disaggregated parameter-wise, from short to long-term, on the different growing stages and yield of priority crops, for customizing the Balochistan Agro-Meteorological Advisory System

Identify and develop different climate service tools/products under Balochistan Agro-Meteorological Advisory System, corresponding to the requirements of

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<sup>1</sup> The RDAS is a cloud-based open-access platform for acquiring, storing, managing, processing, analyzing, visualizing, and reporting climate and socio-economic data/information, for use in screening climate risks to inform investments.

<sup>2</sup> DSSs are sector-specific systems, linked to the RDAS, for assisting users in sectoral planning and decision-making.

<sup>3</sup> SAHF is a convergence of NMHSs in South Asia for sharing knowledge, building capacity, and aligning national level technical assistance with regional engagement.

stakeholders

- Analyze open-source weather/climate-crops models, to determine and finalize the most viable model(s) to be modified/adopted into the Balochistan Agro-Meteorological Advisory System, and provide guidance to the rest of the members of the RIMES Systems Development Team for Pakistan in the required model modification/customization, analyses/modelling processes, and adoption of the said most viable model(s) into the Balochistan Agro-Meteorological Advisory System
- Identify, confirm, and collect weather/climate and agricultural information requirements to refine the climate-informed products from, and/or fully operationalize, the Balochistan Agro-Meteorological Advisory System for priority crops. These information requirements for priority crops may include, but are not limited to:
  - historical weather/climate impacts to crops
  - optimum, sub-optimum, and uncondusive weather/climate thresholds for different growing stages
  - courses of remedial action, for various potential weather/climate conditions during the different growing stages of crops, while integrating other relevant on-ground conditions (irrigation, pests, markets, etc.)
- Provide guidance, to the RIMES System Development Team and the Balochistan Agriculture Department, in translating realised weather and weather forecast, at different temporal and spatial resolution, into agromet advisories for major crops in Balochistan
- Provide guidance in the integration of agricultural management system developed by the Ministry of Agriculture, Balochistan with the Agro-Meteorological Advisory System, especially in generating advisories on application of irrigation, fertilizer and pesticides
- Assist the RIMES System Development Team and the Balochistan Agriculture Department in developing sensitivities ( algorithms/threshold level) of crops to the weather and climate of Balochistan, for generating weather/climate-informed tactical and strategic decisions
- Assist the RIMES System Development Team and the Balochistan Agriculture Department in developing weather/climate-informed forewarning models to manage pest and disease incidence on major crops
- Assist the RIMES System Development Team and the Balochistan Agriculture Department in preparing crop weather calendars, pests and diseases weather calendars for major crops, and create soil, pest, and disease panels
- As part of the inter-disciplinary Systems Development Team for Pakistan, collaborate with others in the team, and with government partners and experts, to evolve/refine location-specific actionable climate resilience strategies of different temporal scales for various agriculture stakeholders in Balochistan, for adoption into the Balochistan Agro-Meteorological Advisory System
- Evaluate existing agricultural practices and systems, in Pakistan and globally, to identify vulnerabilities and opportunities for agricultural improvements/resilience in Balochistan
- As necessary, provide expert inputs/guidance to farmers, operational agriculture officers, policy makers, and other agriculture decision makers/stakeholders in Balochistan on climate-resilient/climate-informed agricultural practices, including, but not limited to:
  - decision-making within a risk management framework
  - resource-efficient farming technologies/techniques
  - sustainable farming activities

- As necessary, provide inputs/guidance to the Systems Development Team for Pakistan on the latest research, technologies, and advancements in agriculture resilience, that could be prioritized/integrated into the development of the Balochistan Agro-Meteorological Advisory System
- In coordination with the rest of the Systems Development Team for Pakistan, ensure that the information products from the Balochistan Agro-Meteorological Advisory System are regularly tested, and feedbacks from stakeholders are integrated for tool/products refinement
- In coordination with the relevant members of the Systems Development Team for Pakistan, and partner government institutions, screen and prioritize stakeholders' feedback/recommendations for phased refinement of the Balochistan Agro-Meteorological Advisory System and its products
- Provide inputs, as relevant, in the Operations and Maintenance Manual of the Balochistan Agro-Meteorological Advisory System
- As necessary, participate and provide inputs in discussions, meetings, trainings, workshops, and other project-relevant activities
- Provide inputs to information/knowledge materials and develop outreach program(s) to popularize the Balochistan Agro-Meteorological Advisory System
- Assist in developing a mechanism to understand users/stakeholders' satisfaction level/index in regard to agromet advisories generated/to be generated under Balochistan Agro-Meteorological Advisory System.
- Provide guidance in use of open source remote sensing data in developing agromet advisories
- Provide guidance in the economic assessment of the Agromet Advisory Services.
- Provide relevant inputs in the technical documentation of the Balochistan Agro-Meteorological Advisory System
- Others, as may be required by CARE Component 1

## 5. Qualifications

### *Knowledge:*

- At least Master's Degree in Agricultural Science, Environmental Science, Climate Science, or a related field
- Knowledge of modeling of weather/climate impacts on crops/agriculture /generation of agromet advisories
- Knowledge of different components of Operational Agromet Advisory Services System
- Knowledge of agriculture in Balochistan, including climate sensitivities and risks, coping mechanisms vis-à-vis climate hazards/disasters, climate-resilient agriculture policies, and others relevant

### *Experience:*

- At least 15 years of experience in research on weather/climate impacts on crops/agriculture; experience in modeling weather/climate impacts on crops/agriculture is preferred
- At least 15 years of experience in working with government and/or development institutions in Pakistan in providing operational/development planning guidance in

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- Work experience with farmers and/or agriculture institutions of the Province of Balochistan is desired
- Publications on climate impacts on crops/agriculture is an advantage

*Skills and abilities:*

- Demonstrate ability to digest complex technical information and convey them in easy-to-understand forms to a variety of stakeholders
- Strong written and verbal command of Urdu and English languages

*Personal qualities:*

Excellent analytical and problem-solving skills; demonstrated ability to plan and organize work independently; excellent interpersonal and communication skills; high commitment to responsibility and work quality; ability to work effectively and efficiently independently and/or within a multi-cultural team; openness/receptiveness to critique for enhancing work and outputs.

## 6. Deliverables

| Activity   | Month |   |   |   |   |   |   |   |   |    |    |    | Deliverables |  |
|--|-------|---|---|---|---|---|---|---|---|----|----|----|--------------|--|
|  | 1     | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |              |  |
| Analysis of weather/climate impacts on priority crops growing stages and yield                             | X     |   |   |   |   |   |   |   |   |    |    |    |              | Report on parameter-wise weather/climate impacts on different stages, and yield, of priority crops   |
| Finalize models to be modified/adopted into the DSS  |       | X |   |   |   |   |   |   |   |    |    |    |              | Report on analysis and prioritization of inclusive DSS model(s), and analyses/modelling processes required   |
| Identify, confirm, and collect weather/climate and agriculture data/information for refining model outputs |       |   | X |   |   |   |   |   |   |    |    |    |              | Detailed decision tree providing weather/climate thresholds for optimum, sub-optimum, and unconducive conditions for various crops stages of priority crops, and corresponding courses of remedial actions |
| Test DSS products and assess stakeholders' feedback  |       |   |   | X |   | X |   | X |   | X  |    |    |              | Report on outcomes of DSS products testing and analysis of stakeholders' feedback  |

|   |  |  |  |  |   |  |   |  |   |  |   |  |
|---|--|--|--|--|---|--|---|--|---|--|---|--|
| Screen and prioritize stakeholders' feedback for integration into the DSS |  |  |  |  | X |  | X |  | X |  | X | Report on prioritization of stakeholders' feedback and status of integration in the DSS                |
| Provide inputs to DSS trainings   |  |  |  |  |   |  |   |  |   |  | X | Documentation of inputs to Operations and Maintenance Manual, and Technical Design Document of the DSS |

**7. Contract Duration**

The contract will be for 1 year subject to a 4-month probationary period, and annual performance review.