

**TERMS OF REFERENCE (TOR) FOR CLIMATE CHANGE EXPERT IN  
UTTARAKHAND CLIMATE RESPONSIVE RAINFED FARMING PROJECT  
PROJECT NUMBER- P179357  
Ref No. 07/11-12(5) /UCRRFP/2022-23**

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## **1. PROJECT OVERVIEW**

Uttarakhand Climate Responsive Rain-fed Farming Project (UCRRFP) will be implemented by the Watershed Management Directorate, Uttarakhand. The project development objectives are to improve resilience of production system to make mountain farming GHG Emission competitive and profitable in selected micro-watersheds of Uttarakhand. UCRRFP is a six-year project to be operational from 2023 to 2029. The project cost is USD 138.39M (IBRD: USD 100M, State Govt. USD 32.82M & Beneficiary: USD 5.56M).

### **1.1 Project Description**

Uttarakhand being a hilly state agriculture is pre- dominantly rain-fed and remains vulnerable to moderate to extreme weather conditions. Sustaining increased agriculture outputs in a rapidly changing climate will require adaptation at a faster pace. Enhancing food security while reducing GHG Emissions from farming practices will require transition to production systems that are more productive, use input more efficiently, have greater stability in outputs and are resilient to short- and long-term climate variability.

Uttarakhand Climate Responsive Rainfed Farming Project (UCRRFP) will be implemented in 06 hilly districts and 02 plain districts of Uttarakhand covering about 1200 villages and comprising of 56 Micro watershed clusters.

### **1.2 Result Indicators**

The following Key Performance Indicators (KPI) are proposed for measuring the core outcomes of the project: -

- ◆ **KPI #1:** - Reduction in GHG emissions from representative cropped land parcels.
- ◆ **KPI #2:** - Increase in productivity of selected crops.

- ◆ **KPI #3:** - Increase in net income of sampled households adopting improved agricultural technology.
- ◆ **KPI #4:** - Increased water discharge in the identified spring- sheds.

### **1.3 Project Components**

#### **Component A- Participatory and Science based Planning (USD 20.91million)**

Given the science-based focus of the project the Project Management Unit (PMU) setup under the WMD will constitute a consortium that will engage researchers/scientist from leading institutes to handhold the project implementation. The project implementation at ground level would involve a community demand driven approach where in through participatory approach climate resilient Gram Panchayat Plans will be developed. This would involve community mobilization, sensitization and their awareness building to the climate change mitigation and adaptation strategies.

#### **Component B – Building Climate Resilient Watersheds and Production Systems (USD 76.64 million)**

To build the climate resilient watersheds with the support of participating communities, watershed and spring-shed management interventions shall be carried out. These initiatives would help in resolving the issues of availability of water for irrigation and other purposes which is critical for building the resilience of the marginal mountain farmers whose farming is totally rain-fed.

To increase the productivity, the project will give both technical and farming inputs to the farmers in agriculture, horticulture, allied sectors and small ruminants. In the endeavour to make farmers climate resilient integrated farming systems shall be promoted, organic farming, integrated pest management, integrated nutrient management and protected farming systems shall be developed. In the process the project will support interventions that reduce GHG emissions from farming systems.

#### **Component C- Improving Income Resilience (USD 17.57 million)**

The projects priority is to increase the income resilience of the mountain communities for this effort shall be made to strengthen the Agri-marketing systems of the farmers by organizing them into farmer's federations and by providing them value addition

services, developing end to end supply chains and by making agro-logistics carbon neutral. The project shall support the development of Agri-enterprise hubs by setting up of Agri Business Growth centres in the remote areas.

With the objective of the ensuring inclusiveness and equity various non-farm based livelihood initiatives will be provided to the marginalized households in the project villages.

### **Component D –Knowledge, ICT and Project Management (USD 23.27 million)**

The project with the support of the consortia will set up a knowledge hub in the PMU. This knowledge hub will analyse, synthesize and document the various methods/practices/approaches/strategies/required in the efficient use of the natural resources, GHG emission reduction, development of resilient integrated farming systems and marketing inputs. The project will work towards enhancing the staff's capacity at the WMD and inter- departmental levels to mainstream climate resilient approaches at the state level.

This component would also cover the institutional setup, coordination, monitoring and evaluation of the project and overall management of the project by the PMU.

### **NEED FOR CONSULTANCY SUPPORT**

1. Climate change being one of the biggest threats to food security and sustainable agriculture, the project aims to improve the resilience and productivity of smallholder farmer for increased profitability and promoting low GHG emissions through sustainable agricultural practices.
2. Improve the knowledge base of the State and local stakeholders on the impacts of climate change on the Agriculture and allied sectors and building capacity of key stakeholders to identify and implement climate change related interventions.
3. The Climate Change Expert will assess the climate change risk and vulnerability assessment in the project area to identify climate change impacts on rainfed agriculture and develop a climate change adaptation strategy.

4. The consultant will develop climate information packages and dissemination protocols that will increase access to weather and climate information improved agricultural productivity, water resource management and enhancing climate change resilience.
5. Determine the risks and vulnerability of priority crops and species, improve weather data and information systems.

## **SCOPE OF WORK**

1. Assess and identify climate resilient technologies (inclusive of the consideration of gender issues) for reducing food and water insecurity due to climate variability.
2. Monitor and plan the project outcomes that will strengthen the adaptive capacities of vulnerable smallholder farmers, especially women, to climate change induced impacts.
3. Ensure adaptation and mitigation to climate change by provision of climate-smart agriculture practices to the project farmers.
4. Provide technical support in mainstreaming climate change into key policies/plans, and providing guidance to the project staff on the development and implementation of pilot projects on various plans like energy efficiency, renewable energy, and low carbon transport of agriculture produce.
5. Develop a training manual and provide training to all project stakeholders on climate change mitigation, adaptation, and resilience.
6. Assist in developing methodologies and tools for GHG emissions calculation and inventory under different scopes of emissions and provide technical support for related reporting and compliance requirements.
7. Conduct a climate change risk and vulnerability assessment in the project area to identify climate change impacts on rainfed agriculture, and developing a climate change adaptation strategy to address these impacts.
8. Contributing to knowledge sharing and best practices on climate change for the wider development of community and civil society.

## **Key deliverables:**

1. Climate change risk and vulnerability assessment report.
2. Climate change adaptation/ mitigation strategy.
3. Monitoring and Evaluation framework for measuring the project impacts.
4. Training manual and training sessions for project staff and farmers.

## **JOB DESCRIPTION**

**Location of Job:** PMU, UCRRFP, WMD, Dehradun, Uttarakhand.

**Reporting Line:** Project Director, UCRRFP, WMD.

## **WORK STATION**

The consultants would be based in the Watershed Management Directorate, Dehradun and would make field visits to all project area as needed.

## **OWNERSHIP**

Watershed Management Directorate of Uttarakhand will have ownership of the data/applications etc. The consultants will have no right of claim to the products developed and shall not replicate them without prior consent of WMD.

## **ESSENTIAL QUALIFICATION**

1. Post Graduate degree in Natural Resource Management/ Forestry/ Ecology/ Environmental Science/Agriculture/Climate Sciences/Climate Change or related field.
2. More than 05 years' experience in the field of Environmental Science/ Climate Change, out of which 3 years' experience in externally aided projects.
3. Strong knowledge of climate change impacts on rainfed farming systems and experience in developing climate change adaptation strategies.
4. Ability to analyse the data, make inferences and ability to prepare reports.  
(A copy of a best report- pdf format max 250 MB prepared by the applicant needs to be uploaded on the website)

## **DESIRABLE QUALIFICATIONS**

1. Doctorate degree in Climate Sciences/ Climate Change or related field.
2. Advanced courses in Ecology/ Climate Change/Sustainable Development/ Remote Sensing & GIS/Weather advisories.
3. Excellent analytical and problem-solving skills and strong organisational, communication and interpersonal skills.
4. Ability to work effectively in a team interacts persuasively with a range of stakeholders, and travel extensively.

## **REMUNERATION:**

Depending on qualification, experience and competency of the candidate, the salary is negotiable.

## **PERIOD OF SERVICE:**

The contract shall be initially for a period of minimum 1 (one) year with a provision of further extension on an annual basis up to the end of the project, subject to satisfactory performance as assessed by the Project Director, UCRRFP.

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