

Government of the People's Republic of Bangladesh
Office of the Project Director, PIU
Agro-Meteorological Information Systems Development Project
Department of Agricultural Extension
Khamarbari, Farmgate, Dhaka-1215

Request for Expressions of Interest (REOI)
for
Senior National Agromet Technical Consultant to be engaged under
'Agro-Meteorological Information Systems Development Project (AMISDP)'
Component –C of "Bangladesh Weather and Climate Services Regional Project"
(Contract Package No: SD-1.)

Memo No. 12.01.000.018.02.006.17.36

Date 12-11-2017

The People's Republic of Bangladesh has received a credit in the amount of USD 113million as from the International Development Association (IDA) towards the cost of Agro-Meteorological Information Systems Development Project [Component –C of Bangladesh Weather and Climate Services Regional Project (BWCSR)] to be implemented by Department of Agricultural Extension (DAE) and it intends to apply part of the proceeds to payments for the provision of consultancy services for the project by hiring of Senior National Agromet Technical Consultant.

2. Scope of Task /Service:

The consultant will work closely with the Project Director (PD) and the Senior International Consultant in supporting the implementation of this component. The scope of Work includes but is not limited to: -

- a) Reviewing project documents and other related information to develop a needs assessment for Agrometeorology.
- b) Provision of agrometeorological forecasting and advisory service for grass-root level farmers regarding pest management, irrigation management, crop disease etc. with support from BMD, DAE and different agriculture research organization of Bangladesh.
- c) Developing and implementing a training plan on the use of BAMIS and of agromet information, and providing technical support for the procurement of data and software resources e.g. software, database etc.
- d) Organizing training programs and workshops on sustainable utilization of the agrometeorological information system for different stakeholders e.g. farmers, DAE officials etc.
- e) Support coordination with BMD for the installation of agromet equipment and distribution of agromet/ICT equipment under DAE, coordination with research agencies and BMD on product development.
- f) Study weather and climatic resources for effective crop planning.
- g) Development of weather-based effective farm operations.
- h) Study crop weather relationships in all important crops and forecast crop yields based on agro climatic information.
- i) Study the relationships between weather factors and incidence of pests and diseases of various crops.
- j) Prepare crop weather diagrams and crop weather calendars.
- k) Assist Research Organizations to develop crop simulation models for different agroclimatic zones.
- l) Monitor agricultural droughts and salinity for effective drought and salinity management of different crops.
- m) Develop weather based agro advisories to sustain crop production utilizing various types of weather forecasts and seasonal climate forecasts.
- n) Study the influence of weather on the environment of soils on which the crops are grown
- o) Providing advisory for grass-root level farmers about when and how much irrigation should be needed for a particular crop depending on the geography and soil condition.
- p) Development of farmer's advisories during and after a natural disaster.

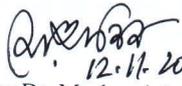
3. Qualification and Experience:

Following are the Consultant's eligibility criteria and DAE reserves the right to disqualify technical bids straight away for not complying with the same or without any reason whatsoever:

- a) The Consultant should have a Bachelor of Science as well as Master of Science in Meteorology/Agricultural Meteorology/Physics or applied Mathematics from a reputed public university of Bangladesh with at least 10 years of professional experience in operational agrometeorological service in any national met organisation.
- b) The Consultant should have familiarity with state-of-the-art agrometeorological information systems in different parts of the world.
- c) The Consultant should have experience in handling and analysis of large meteorological databases to produce timely agrometeorological forecasts and advisories for the intended audiences.
- d) The Consultant should have successfully completed one-year forecaster's course offered by National Meteorological Services according to the syllabus of World Meteorological Organization (WMO).
- e) Proven experience in the field of remote sensing and GIS. An advanced certification in remote sensing will get preference.
- f) International training on agro meteorology offered by any reputed organization affiliated by WMO.
- g) Experience in development of early warning systems for agriculture
- h) Experience in developing a platform for the exchange of agro-meteorological information
- i) Experience in developing monitoring and evaluation plan
- j) Knowledge of climate change impacts on agriculture will be an advantage.



- k) Should be energetic and must be willing to travel frequently to project sites.
 - l) Preferably a Bangladeshi Citizen.
 - m) The consultant needs to:(i) have the legal status to enter into the contract;(ii) not be under a declaration of ineligibility for corrupt, fraudulent, coercive practices in completing for, or in executing a contract under public fund;(iii) not insolvent, in receivership, bankrupt or being wound up their business activities have not been suspended and it is not the subject of legal proceedings for any of the foregoing activities; and (iv) fulfill its obligations to pay taxes and social security contributions under the relevant national laws and regulations.
4. Department of Agricultural Extension (DAE) now invites eligible applicants to indicate their interest in providing the services. Applicants are invited to provide information indicating that they are qualified to perform the services **(Complete CV and supporting documents)**.
 5. Detailed Terms of Reference (ToR) will be available upon request from the address provided below either through email or in person. ToR will also be available in the website of DAE (www.dae.gov.bd/site/view/tenders/Tender-EOI-job-circular).
 6. The consultant will be selected using the Selection of Individual Consultant method in accordance with the World Bank's Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, January 2011 (Revised July 2014).
 7. Expressions of Interest shall be submitted by 17 .00 hours (BD local time) on 10 December 2017 to the address below (in person, or by mail, or by e-mail).


12.11.2017

Name: Dr. Mazharul Aziz

Designation: Project Director

Address: Room # 726, 6th Floor, Middle Building, Khamarbari, Farmgate, Dhaka-1215

Email: azizdae@gmail.com

**Terms of Reference (TOR) for the Senior National Agromet Technical
Consultant to be engaged under
'Agro-Meteorological Information Systems Development (AMISD)'
Component -C of "Bangladesh Weather and Climate Services Regional
Project"**

Department of Agricultural Extension (DAE)

A. Background

The South Asia Region (SAR) is highly prone to water related hazards such as floods, drought, tropical cyclones and thunderstorms that frequently cut across national borders. Despite the susceptibility of Bangladesh to weather and climate extremes, the country's hydro-meteorological information infrastructure over land, atmosphere and ocean, basic public weather services, forecasting, and multi-hazard end-to end early warning systems remain weak and need to be strengthened.

In Bangladesh, agriculture contributes to almost 18% to the country's GDP and provides employment to about 60% of the people. Being primarily rain-fed, agricultural productivity of key crops such as rice, wheat, jute, tea, potatoes, and sugarcane is highly dependent on rainfall and weather patterns. There are approximately 30 key agro-ecological zones in the country. However, at present, neither the Bangladesh Meteorological Department (BMD) nor the Department of Agricultural Extension (DAE) have a systematic way of combining meteorological information and forecasts with agriculture related information to produce tailored Agro-Meteorological bulletins, information and products for farmers in the different agro-ecological zones that can help farmers make appropriate operational decisions about planting, harvesting, irrigation, adjusting cropping patterns and so forth at the farm level. DAE needs the development of an appropriate decision support system for agro-climatic information which would be of tremendous value in developing and communicating climate risk information to farmers.

With support from the World Bank, the Government of Bangladesh (GOB) is implementing the Bangladesh Weather and Climate Services Regional Project (BWCSR). The main objective of the project is to strengthen government capacity to deliver effective weather and climate information services and improve the quality and access to such services in priority sectors and communities. This objective will be achieved by strengthening the hydro-meteorological monitoring and forecasting, and service delivery related to water, agriculture and multi-hazard disaster risk management early warning systems. The BWCSR has four Components and include the following:

Component A: Strengthening Meteorological Information Services implemented by the Bangladesh Meteorological Department (BMD);

Component B: Strengthening Hydrological Information Services implemented by the Bangladesh Water Development Board (BWDB);

Component C: Agro-Meteorological Information Systems Development implemented by the Department of Agricultural Extension (DAE); and

Component D: Contingent Emergency Response Component

B. Description of Component C: Agro-Meteorological Information Systems Development

This Component focuses on enhancing access to weather and climate services for farmers through the development of the Bangladesh Agro-Meteorological Information Systems (BAMIS) so as to increase agricultural productivity and reduce losses from meteorological and hydrological hazards. This would be developed in collaboration with the Agro-meteorology Division of the BMD and BWDB

Key sub-Components of Component C include:

a) *Establishment of the Bangladesh Agro-Meteorological Information System (BAMIS)*

b) *Training, Capacity Building, Project Management and Monitoring and Evaluation*

c) Agricultural Disaster Risk Management through Agro-Meteorological information dissemination

The BAMIS is conceptualized as a decision support system for the provision of agrometeorological advisories and products to facilitate on-farm operational decision making by farmers, district development and agricultural extension officers and planning agencies. It will provide open access to weather and climate information, from pre-sowing to post-harvest, to the public without charge. A key aspect of the BAMIS is that it will bridge the gap between BMD, BWDB, DAE and the farming community and deliver timely and relevant weather and climate related information and early warnings to farmers and agricultural producers through the development and implementation of a web-based information portal.

C. Objectives of the consultancy

The consultancy has the following objectives: The consultant will provide technical and logistical support to the PD, DAE PIU to implement the activities under component C as noted above. The consultant is expected to support;

1. Review of current activities related to agrometeorological forecasting and the dissemination of information ;
2. Identify weaknesses and limitations of current agro-meteorological forecasting and dissemination of information;
3. Propose options for addressing users' demand and needs; 7
4. Preparation of translated agrometeorological bulletins;
5. Assess the training needs, develop the appropriate training program and organize regular training events for different stakeholders as well as officials of DAE on agromet service delivery and effective use of agromet information.

D. Scope of Services and Tasks:

The consultant will work closely with the Project Director (PD) and the Senior International Consultant in supporting the implementation of this component. The scope of Work includes but is not limited to: -

1. Reviewing project documents and other related information to develop a needs assessment for Agrometeorology.
2. Provision of agrometeorological forecasting and advisory service for grass-root level farmers regarding pest management, irrigation management, crop disease etc. with support from BMD, DAE and different agriculture research organisation of Bangladesh.
3. Developing and implementing a training plan on the use of BAMIS and of agromet information, and providing technical support for the procurement of data and software resources e.g. software, database etc.
4. Organizing training programs and workshops on sustainable utilization of the agrometeorological information system for different stakeholders e.g. farmers, DAE officials etc.
5. Support coordination with BMD for the installation of agromet equipment and distribution of agromet/ICT equipment under DAE, coordination with research agencies and BMD on product development.
6. Study weather and climatic resources for effective crop planning.
7. Development of weather-based effective farm operations.
8. Study crop weather relationships in all important crops and forecast crop yields based on agro climatic information.
9. Study the relationships between weather factors and incidence of pests and diseases of

- various crops.
10. Prepare crop weather diagrams and crop weather calendars.
 11. Assist Research Organizations to develop crop simulation models for different agroclimatic zones.
 12. Monitor agricultural droughts and salinity for effective drought and salinity management of different crops.-
 13. Develop weather based agro advisories to sustain crop production utilizing various types of weather forecasts and seasonal climate forecasts.
 14. Study the influence of weather on the environment of soils on which the crops are grown
 15. Providing advisory for grass-root level farmers about when and how much irrigation should be needed for a particular crop depending on the geography and soil condition.
 16. Development of farmer's advisories during and after a natural disaster.

E. Expected Deliverables

The expected outputs of the consulting service are as follows:

1. Development of crop production planning for the farmers.
2. Development of crop weather calendars.
3. Develop and delivery of agro-meteorological training courses for farmers, extension officers and other stakeholders.
4. Develop a strategy for an efficient diffusion of agro-meteorological information to the relevant end-users (especially small farmers).
5. Development of Crop and weather bulletins (seasonal basis).
6. Workshops, seminars and training materials (as per program requirements of Project Implementation Unit (PIU)).
7. Development of operating and maintenance manuals for agro met instruments.

F. Qualification Requirement and Eligibility criteria of the Consultant

Following are the Consultant's eligibility criteria and DAE reserves the right to disqualify technical bids straight away for not complying with the same or without any reason whatsoever:

1. The Consultant should have a Bachelor of Science as well as Master of Science in Meteorology/Agricultural Meteorology/Physics or applied Mathematics from a reputed public university of Bangladesh with at least 10 years of professional experience in operational agrometeorological service in any national met organisation.
2. The Consultant should have familiarity with state-of-the-art agrometeorological information systems in different parts of the world.
3. The Consultant should have experience in handling and analysis of large meteorological databases to produce timely agrometeorological forecasts and advisories for the intended audiences.
4. The Consultant should have successfully completed one-year forecaster's course offered by National Meteorological Services according to the syllabus of World Meteorological Organization (WMO).

5. Proven experience in the field of remote sensing and GIS. An advanced certification in remote sensing will get preference.
6. International training on agro meteorology offered by any reputed organization affiliated by WMO.
7. Experience in development of early warning systems for agriculture
8. Experience in developing a platform for the exchange of agro-meteorological information
9. Experience in developing monitoring and evaluation plan
10. Knowledge of climate change impacts on agriculture will be an advantage.
11. Should be energetic and must be willing to travel frequently to project sites.
12. Preferably a Bangladeshi Citizen.
13. The consultant needs to: (i) have the legal status to enter into the contract; (ii) not be under a declaration of ineligibility for corrupt, fraudulent, coercive practices in completing for, or in executing a contract under public fund; (iii) not insolvent, in receivership, bankrupt or being wound up their business activities have not been suspended and it is not the subject of legal proceedings for any of the foregoing activities; and (iv) fulfill its obligations to pay taxes and social security contributions under the relevant national laws and regulations.

G. Duration of Assignment

The assignment will be for 36 months, but the contract period will be 12 months and will be renewed upon satisfactory performance of the consultant.

H. Implementation Arrangement

The consultant will report to the Project Director of the BWCRP PIU in DAE and will work in collaboration with DAE, BMD, BWDB and World Bank among others to accomplish the assignment.

I. Tentative Payment Arrangement:

The contract will be based on monthly payment and applicable VAT/TAX will be deducted as per Government rule of Bangladesh.

J. Competencies

Excellent team player with good interpersonal skills
 Ability to manage workload with minimum supervision
 Ability to work under pressure and tight deadlines
 Ability to accommodate additional demands at short notice
 Ability to work in a multi-cultural environment
 Ability to communicate effectively orally and in writing in English in order to communicate complex, technical information to technical and general audiences
 Strong strategic planning, results-based management and reporting capabilities
 Displays cultural, gender, religion, nationality and age sensitivity and adaptability