## **Practcal_Action_Logo_RGB_400px**Terms of Reference

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| 1. **Assignment title:**
 | **Digital Weather Board Web app and Software Upgradation** |
| 1. **Description:**
 | Our vulnerable communities need effective early warning systems and climate information, they need increased knowledge and skills about potential hazards, and they need localized weather forecasts so they will be able to make climate informed decisions about selecting the crops, preparing seed beds, or any other agricultural practices.Every year flood also causes significant devastation in our communities, flood and hazard damaging crops, houses, agricultural lands and livelihoods.The innovation of weather board provides a range of agricultural livelihood information, together with information to reduce risk of disasters and help flood management in the monsoon season.Under the Zurich Flood Resilience Project, one of the program activity is installation the digital weather board in the project area and upgrade the existing software.  |
| 1. **Location:**
 | Faridpur Sadar and Sadarpur Upazila |
| 1. **Duration and timing:**
 | 2nd week of June 2022 to 3rd week of July 2022 (36 days), after contract signing. |
| 1. **Number of working days:**
 | 25 working days for final submission. |

1. **Background and purpose of the assignment:**
	1. **Background**

The Zurich Flood Resilience Alliance is a multi-sectoral partnership focusing on finding practical ways to help communities in developed and developing countries strengthen their resilience to flood risk. Practical Action has been a partner of the Alliance since its foundation in 2013, supporting communities in Bangladesh, Peru, and Nepal to build resilience against floods.

Presently, Practical Action has been working with the Zurich Flood Resilience Alliance (ZFRA) in building resilience of the vulnerable communities. We are working in Faridpur District with eight vulnerable communities from four Unions under two Upazila: Decreerchar and North Channel Union under Faridpur Sadar Upazila, and Char Nasirpur and Dheukhali Union under Sadarpur Upazila. These communities are vulnerable in terms of their economic status, and proximity to the river. To build resilience of these communities against floods, one of the components that Practical Action is working on is installation the digital weather board in the project area and upgrade the existing software.

In order to efficiently disseminate Early Warning for disaster through digital weather board along with Local Weather Forecast, Agriculture Advisories, Government information and notices and Latest Local and National Market prices for vegetables and other local produces with interactive video clips. Practical Action is looking for a software development agency to develop the weather board web app.

### **Issues with current web app**

The current web app, developed in 2018 is somewhat function. However, now the pages are not optimized, plugins are outdated, localized weather api does not work, input panel doesn’t work, designs do not take into consideration of user experience, making it obsolete. These issues have resulted a compromised system performance and bugs that need assistance to improve.

* 1. **Objectives**

The objective of the assignment to develop a new web app using an updated framework to enable better functionality of the digital weather board. The web app needs to be user-friendly for the application admin whilst create/upload/modify content on a regular basis.

1. **Scope of work**

Design and develop a weather board app which will help the community to make risk-informed decisions by providing information on rainfall, temperature, sunlight hour, evaporation rate for the last week, the current week and the upcoming week using simple symbols for easy understanding by communities where literacy may not be high. The app will also include Early Warning for disaster through by displaying the water level during flood, Local Weather Forecast, Agriculture Advisories, Government information and notices and Latest Local and National Market prices for vegetables. Interactive video clips (collected from different Govt./Non Govt. sources) related to agriculture, disaster preparedness, advisories need to be portrayed in the weather board as well.

The scope of work includes but not limited to:

1. Design and Develop Dynamic web app and website (Every section of the pages will be dynamic, so that site admin can upload the site text, images, videos from his/her own panel)
2. Weather forecast will be localized gps location based
3. Use the latest MERN technology (if possible) to developed the full system
4. Approval-based content upload/modify process (Hierarchy based)
5. Develop data archiving process and prepared report from system (How many hours the app run, local market price up down over different hazard etc.)
6. Responsive site to fit every information and sections in the digital board screen properly (Screen size can vary from 38 inches to 46 inches)
7. User access control with permission mechanism
8. Hosting the website, maintenance technical bugs and patch update for 12 months from end of August 2022.
9. Develop a user manual and provide training
10. Two-minute story telling 2D video “how the digital weather board and the developed software system helping the flood affected vulnerable community”

### 7.1. When designing the web system, what to keep in mind

1. Targeted audiences are community people, Government agencies, Privet/Corporate sector leaders and International nonprofit organizations
2. The web system should be in coherence with Practical Action’s communication policy and visual guideline
3. The web system design should be easy to navigate
4. Design elements should be simple and modern and based on user experience research
5. Options to do cross posting and integration between Zurich alliance portal, Bangladesh disaster alert app and other sub domains
6. Social Media Channels should be connected and enable us to share post

### 7.2. Application Requirements:

1. Should support cross browser platforms (popular web-browsers such as Mozilla Firefox, Opera, Chrome, Internet Explorer, Safari etc.)
2. Application should be lightweight and rich client-side scripting
3. Application should run with narrow bandwidth
4. UI should be developed based on the analysis of UX
5. Any web interface of this application should be fully responsive and can be useable through Mobile, Desktop, Laptop, Pad, etc.

###  7.3. Security and Privacy Requirements:

1. System should follow all the standard and advance security compliance
2. The system should have protection from various security threats like Cross site scripting, SQL injection, DDoS attacks, Cross-site request forgery (CSRF), Data breach etc.
3. Agency has to ensure Application Level Security
4. Agency has to cooperate with Practical Action System Maintenance team and IT to ensure the Application security

### 7.4. Scalability Requirements:

1. The Application should be highly scalable to accommodate current and future requirements within the scope mentioned in this TOR
2. The agency must conduct an extensive load testing before handing over the application
3. The application should be provided with appropriate caching mechanism to handle very high-traffic scalability

### 7.5. System Audit:

The system should maintain an audit trail of any changes or updates made in any information that are considered as vital, simultaneously maintaining the audit log with information such as:

1. Information/Log of the users who are accessing the admin panel
2. Information the users who are Create/Modified/delete the website Content
3. Log attempted breaches of access
4. Total Visitor Count Report
5. Others knowledge related reports for project team

### 7.6. UI/UX:

The agency must propose a UI/ UX plan considering these specifications:

1. The system interfaces should be highly user friendly i.e. easy to navigate and rapid loading time
2. The UI needs to be designed by using well-established, supported and lightweight UI framework so that it follows widely used industry flow patterns
3. UI Optimization
4. UI shall be easily configurable if any changes are needed

### 7.7. Coding Conventions:

1. The agency must follow the standard up to date coding language version to produce high-quality code for further uses of the code in terms of reusability, refactoring, task automation, language factors etc.
2. We suggest to use MERN technology to developed full system, Technical team with MERN stack will get priority

### 7.8. Copyright:

1. Practical Action shall be entitled to all proprietary rights including copyrights and trademark

### 7.9. Development and Implementation Methodology:

1. The vendor is requested to propose and submit an efficient SDLC approach for this project considering: scopes, requirements of services, objectives, organizational environmental factors and behaviour, ultimate deliverables and various resources to be used. According to SDLC feedback collection session has to be conducted

### 7.10. Training:

1. The vendor must propose a detail training plan on administration and content management.
2. The vendor should Provide user manual, administration manual, online help to Concern department

### 7.11. Expected Deliverable:

1. Business Requirements Document (BRD)
2. System requirement specification (SRS)
3. System design document (SDD)
4. Database Structure and design
5. Technical documentation (system architecture, module integration points, workflow engine, user manual, etc.)
6. Training plan
7. Integration plan and reports
8. Hosting requirement specification, plan and report
9. Implementation plan and report
10. Work Progress and review reports
11. **Role of Practical Action**

Practical Action will support the agency by providing following support after awarding the contract. The main responsibility of Practical Action is to:

1. Provide technical feedback, guideline and support throughout the contract;
2. Timely release of the split due amount after submitting monthly invoices throughout the contract;
3. **Required competencies and experience:**

**Essential:**

1. Minimum 3 years of experience in Software development business
2. Must have an online company profile (I.E. Website Page)
3. Ability to provide required documents as required by Clients, Admin and Finance Department
4. Team formation and team profile using MERN full stack development
5. Promo video making profile and previous works history
6. Must proactively provide insights and data on industry best practices
7. Must develop a prototype for PC, Mobile and Tablet
8. Core services offered must have web development
9. Must be comfortable in using project management tools
10. Maintenance of the website for 12 Months, may extend depending on service quality
11. Standard User manual and Report writing ability in English and Bangla
12. Updated company registration certificate, TIN and BIN

**Desired:**

1. Experienced in working with INGOs in similar works
2. Ability to work in stressful emergency situations
3. **Application and submission procedure:**

Interested party(ies) (consultants/firm) are requested to submit their technical and financial proposals separately with the details organisational profiles including reference of relevant work experience (applicable for consulting firm), relevant experience, budget details, time frame and CVs of experts and contact details.

The proposal from individuals/firms shall contain the following sections:

* Understanding of the assignment
* Methodology
* Work plan and schedule (Tentative plan attached for both party agreement)
* Team composition
* Detailed Budget (Budget head attached for agreement)

The agency/consultants/firm must submit the following documents along with Technical & Financial Proposal (including VAT and TAX) separately, as appropriate:

*For Consultancy Firm:*

* Maximum 3-pages Firm profile highlighting related assignment completed with client name, contract person and contact number
* Lead Consultant’s (who will lead the assignment) CV with maximum 3-pages highlighting related assignment completed, role in the completed assignment
* List of key team members (who will be involved in the assignment) along with their short CV (maximum 3 pages for each member) highlighting related assignment completed and role
* Firm’s Certificate, TIN and VAT registration

*For Individual Consultant:*

* Maximum 3-page profile highlighting related assignment completed with client name, contract person and contact number along with detailed CV
* TIN certificate and any other relevant document (if necessary)
* Team composition and list of key team members (who will be involved in the assignment) along with their short CV (maximum 3 pages for each member) highlighting related assignment completed and role
* TIN certificate and any other relevant document of each member (if necessary)

Electronic copy of the proposal duly signed should be submitted to: procurement.bd@practicalaction.org.bdwith the subject line: “**Digital Weather Board Software Upgradation”** by 25 May 2022**.**

1. **Terms of Payment for the consultant/firm:**

The payment will be made according to the following time frame/arrangement:

| **Instalments** | **Amount** | **Timeline** |
| --- | --- | --- |
| 1st instalment | 25% of the total amount | After contract signing  |
| 2nd instalment | 40% of the total amount | After successfully beta launch.  |
| 3rd Instalment | 35% of the total amount | After completion the full work with proper reporting and digital content submission. Final confirmation from the assigned coordinator from practical Action. |

***Note:*** *Tax and VAT will be deducted at source from the bills payable to the selected consultants/firm. In all cases, consultants/firm may only be paid their fees upon satisfactory completion of services.*

Please consider the given Items when preparing activity wise financial proposal for work order

|  |  |  |  |
| --- | --- | --- | --- |
| **SL No** | **Module Name/Item Name** | **Total Cost (in BDT)** | **Required Man-hour** |
| 01 | Website landing page design and development | ? | ? |
| 02 | Weatherboard web app design and development | ? | ? |
| 03 | Admin panel and system management tool development  | ? | ? |
| 04 | Report development and Integration with Market price panel, YouTube playlist panel, SMS panel and different modules etc | ? | ? |
| 05 | Domain and hosting/cloud service for 24 months with manage the system | ? | ? |
| 06 | Maintenance cost (for 1 year from Sep 2022) | ? | ? |

1. **Cancellation/termination of contract:**

Practical Action in Bangladesh reserves the right to cancel, amend, and defer the contract agreement and/or work order.

**Our**STANDARD TERMS AND
CONDITIONS

Practical Action practices the following terms and conditions stated below applicable to signing any contract with external agencies/consultants:

* *All project records and copies of records, data sets, electronic data and photocopies, etc., which the organization remains for the successful execution of the assignment, shall remain the exclusive properties of Practical Action;*
* *During the period of the Agreement or afterwards, the organization shall not issue any written material or express public or personal opinions concerning the services under the Agreement to parties outside except with the prior written approval of Practical Action;*
* *The organization assumes all responsibility for complying with local legal codes as they apply to an Agreement and work performed there under. In addition, the organization shall be liable to pay all applicable taxes and fees as required by the laws of Bangladesh. Practical Action will deduct Income Tax and VAT at source as per Govt. rules;*
* *The organization shall not without first obtaining the consent in writing of Practical Action, permit any of its duties or obligations made under the Agreement to be performed or carried out by any other person, or reassign his/her interest in the Agreement;*
* *In the event that the organization requires additional time to complete the Agreement, over and above that previously agreed to, without Practical Action changing the scope of the Agreement, Practical Action’s prior written concurrence to the same is necessary in order to charge Practical Action for Agreement expenses incurred during an Agreement extension;*
* *However, Practical Action may, by written order, make general changes within the scope of the Agreement affecting the services to be performed or the time of performance. If any such changes cause an increase or decrease in the cost of, or time required for performance of, any part of the work under the Agreement, Practical Action shall make an equitable adjustment in the Agreement price, the delivery schedule, or both, and shall modify the Agreement in writing accordingly;*
* *The organization may communicate with parties external to Practical Action through and with prior intimation to Practical Action, while performing services under the Agreement;*
* *Notwithstanding anything contained in the Agreement or in these conditions Practical Action may at any time by notice in writing terminate the Agreement in whole or in part by requiring the organization to stop performing the work or any part thereof, in which event the organization shall have no claim against Practical Action by reason of such termination other than payment of expenses actually incurred by the organization plus a fair and reasonable fee to be in proportion to the work performed under the Agreement, less any sum previously paid on account thereof. However, if the Agreement is cancelled by Practical Action due to negligence on the part of the organization, termination expenses shall be borne by him. In this later case, Practical Action’s independent determination of negligence on the part of the organization shall be considered to be final and non-negotiable;*
* *The organization shall not hold Practical Action liable for any accident or misadventure befalling them whilst on duty or pursuing activities to fulfil the Agreement;*
* *Practical Action reserves right to accept and reject any proposal without assigning any verbal and or written rationale whatsoever; Practical Action reserves the right to monitor the quality and progress of the work during assignment;*
* *Further items/tasks might be incorporated by Practical Action and in such case, budget will be revised accordingly;*
* *Payments will be made by account payee cheque or bank transfer in the name of the organization or individual as per the contract.*