



INVITATION TO BID

**Firm/Institution/Organization for development of
community-based disaster monitoring and warning system
for coastal areas in Viet Nam**

ITB No.: N-210901 – Revision 2

Project: Improving the resilience of vulnerable coastal communities to climate change related impacts in Viet Nam

Country: Viet Nam

Issued on: 27 September 2021

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SECTION 1. LETTER OF INVITATION

The United Nations Development Programme (UNDP) hereby invites you to submit a Bid to this Invitation to Bid (ITB) for the above-referenced subject.

This ITB includes the following documents and the General Terms and Conditions of Contract which is inserted in the Bid Data Sheet:

- Section 1: This Letter of Invitation
- Section 2: Instruction to Bidders
- Section 3: Bid Data Sheet (BDS)
- Section 4: Evaluation Criteria
- Section 5: Terms of Reference for required equipment and related services
- Section 6: Returnable Bidding Forms
 - Form A: Bid Submission Form
 - Form B: Bidder Information Form
 - Form C: Joint Venture/Consortium/Association Information Form
 - Form D: Qualification Form
 - Form E: Format of Technical Bid
 - Form F: Price Schedule
 - Form G: Performance Security

If you are interested in submitting a Bid in response to this ITB, please prepare your Bid in accordance with the requirements and procedure as set out in this ITB and submit it by the Deadline for Submission of Bids set out in Bid Data Sheet.

Please acknowledge receipt of this ITB by sending an email to procurement.vn@undp.org, indicating whether you intend to submit a Bid or otherwise. You may also utilize the "Accept Invitation" function in eTendering system, where applicable. This will enable you to receive amendments or updates to the ITB. Should you require further clarifications, kindly communicate with the contact person/s identified in the attached Data Sheet as the focal point for queries on this ITB.

UNDP looks forward to receiving your Bid and thank you in advance for your interest in UNDP procurement opportunities.

Issued by



Name: Nguyen Thuy Nga
Title: Procurement Executive
Date: **September 27, 2021**

Approved by:



Name: Tran Thi Hong
Title: Head of Procurement Unit
Date: **September 27, 2021**

SECTION 2. INSTRUCTION TO BIDDERS

GENERAL PROVISIONS

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| 1. Introduction | <p>1.1 Bidders shall adhere to all the requirements of this ITB, including any amendments made in writing by UNDP. This ITB is conducted in accordance with the UNDP Programme and Operations Policies and Procedures (POPP) on Contracts and Procurement which can be accessed at https://poppp.undp.org/SitePages/POPPBSUnit.aspx?TermID=254a9f96-b883-476a-8ef8-e81f93a2b38d</p> <p>1.2 Any Bid submitted will be regarded as an offer by the Bidder and does not constitute or imply the acceptance of the Bid by UNDP. UNDP is under no obligation to award a contract to any Bidder as a result of this ITB.</p> <p>1.3 UNDP reserves the right to cancel the procurement process at any stage without any liability of any kind for UNDP, upon notice to the bidders or publication of cancellation notice on UNDP website.</p> <p>1.4 As part of the bid, it is desired that the Bidder registers at the United Nations Global Marketplace (UNGM) website (www.ungm.org). The Bidder may still submit a bid even if not registered with the UNGM. However, if the Bidder is selected for contract award, the Bidder must register on the UNGM prior to contract signature.</p> |
| 2. Fraud & Corruption, Gifts and Hospitality | <p>2.1 UNDP strictly enforces a policy of zero tolerance on proscribed practices, including fraud, corruption, collusion, unethical or unprofessional practices, and obstruction of UNDP vendors and requires all bidders/vendors observe the highest standard of ethics during the procurement process and contract implementation. UNDP's Anti-Fraud Policy can be found at http://www.undp.org/content/undp/en/home/operations/accountability/audit/office_of_audit_andinvestigation.html#anti</p> <p>2.2 Bidders/vendors shall not offer gifts or hospitality of any kind to UNDP staff members including recreational trips to sporting or cultural events, theme parks or offers of holidays, transportation, or invitations to extravagant lunches or dinners.</p> <p>2.3 In pursuance of this policy, UNDP:</p> <p>(a) Shall reject a bid if it determines that the selected bidder has engaged in any corrupt or fraudulent practices in competing for the contract in question;</p> <p>(b) Shall declare a vendor ineligible, either indefinitely or for a stated period, to be awarded a contract if at any time it determines that the vendor has engaged in any corrupt or fraudulent practices in competing for, or in executing a UNDP contract.</p> <p>2.4 All Bidders must adhere to the UN Supplier Code of Conduct, which may be found at https://www.un.org/Depts/ptd/about-us/un-supplier-code-conduct</p> |
| 3. Eligibility | <p>3.1 A vendor should not be suspended, debarred, or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization. Vendors are therefore required to disclose to UNDP whether they are subject to any sanction or temporary suspension imposed by these organizations.</p> <p>3.2 It is the Bidder's responsibility to ensure that its employees, joint venture members, sub-contractors, service providers, suppliers and/or their employees</p> |

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| | | meet the eligibility requirements as established by UNDP. |
| 4. Conflict of Interests | <p>4.1 Bidders must strictly avoid conflicts with other assignments or their own interests, and act without consideration for future work. Bidders found to have a conflict of interest shall be disqualified. Without limitation on the generality of the above, Bidders, and any of their affiliates, shall be considered to have a conflict of interest with one or more parties in this solicitation process, if they:</p> <ul style="list-style-type: none"> a) Are or have been associated in the past, with a firm or any of its affiliates which have been engaged by UNDP to provide services for the preparation of the design, specifications, Terms of Reference, cost analysis/estimation, and other documents to be used for the procurement of the goods and services in this selection process; b) Were involved in the preparation and/or design of the programme/project related to the goods and/or services requested under this ITB; or c) Are found to be in conflict for any other reason, as may be established by, or at the discretion of UNDP. <p>4.2 In the event of any uncertainty in the interpretation of a potential conflict of interest, Bidders must disclose to UNDP, and seek UNDP's confirmation on whether or not such conflict exists.</p> <p>4.3 Similarly, the Bidders must disclose in their Bid their knowledge of the following:</p> <ul style="list-style-type: none"> a) If the owners, part-owners, officers, directors, controlling shareholders, of the bidding entity or key personnel who are family members of UNDP staff involved in the procurement functions and/or the Government of the country or any Implementing Partner receiving goods and/or services under this ITB; and b) All other circumstances that could potentially lead to actual or perceived conflict of interest, collusion or unfair competition practices. <p>Failure to disclose such an information may result in the rejection of the Bid or Bids affected by the non-disclosure.</p> <p>4.4 The eligibility of Bidders that are wholly or partly owned by the Government shall be subject to UNDP's further evaluation and review of various factors such as being registered, operated and managed as an independent business entity, the extent of Government ownership/share, receipt of subsidies, mandate and access to information in relation to this ITB, among others. Conditions that may lead to undue advantage against other Bidders may result in the eventual rejection of the Bid.</p> | |

B. PREPARATION OF BIDS

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| 5. General Considerations | <p>5.1 In preparing the Bid, the Bidder is expected to examine the ITB in detail. Material deficiencies in providing the information requested in the ITB may result in rejection of the Bid.</p> <p>5.2 The Bidder will not be permitted to take advantage of any errors or omissions in the ITB. Should such errors or omissions be discovered, the Bidder must notify the UNDP accordingly.</p> |
| 6. Cost Preparation of Bid | <p>6.1 The Bidder shall bear all costs related to the preparation and/or submission of the Bid, regardless of whether its Bid is selected or not. UNDP shall not be responsible or liable for those costs, regardless of the conduct or outcome of the procurement process.</p> |
| 7. Language | <p>7.1 The Bid, as well as any and all related correspondence exchanged by the Bidder</p> |

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| | and UNDP, shall be written in the language (s) specified in the BDS. |
| 8. Documents Comprising the Bid | <p>8.1 The Bid shall comprise of the following documents and related forms which details are provided in the BDS:</p> <ul style="list-style-type: none"> a) Documents Establishing the Eligibility and Qualifications of the Bidder; b) Technical Bid; c) Price Schedule; d) Bid Security, if required by BDS; e) Any attachments and/or appendices to the Bid. |
| 9. Documents Establishing the Eligibility and Qualifications of the Bidder | <p>9.1 The Bidder shall furnish documentary evidence of its status as an eligible and qualified vendor, using the Forms provided under Section 6 and providing documents required in those forms. In order to award a contract to a Bidder, its qualifications must be documented to UNDP's satisfaction.</p> |
| 10. Technical Bid Format and Content | <p>10.1 The Bidder is required to submit a Technical Bid using the Standard Forms and templates provided in Section 6 of the ITB.</p> <p>10.2 Samples of items, when required as per Section 5, shall be provided within the time specified and unless otherwise specified by the Purchaser, at no expense to the UNDP. If not destroyed by testing, samples will be returned at Bidder's request and expense, unless otherwise specified.</p> <p>10.3 When applicable and required as per Section 5, the Bidder shall describe the necessary training programme available for the maintenance and operation of the equipment offered as well as the cost to the UNDP. Unless otherwise specified, such training as well as training materials shall be provided in the language of the Bid as specified in the BDS.</p> <p>10.4 When applicable and required as per Section 5, the Bidder shall certify the availability of spare parts for a period of at least five (5) years from date of delivery, or as otherwise specified in this ITB.</p> |
| 11. Price Schedule | <p>11.1 The Price Schedule shall be prepared using the Form provided in Section 6 of the ITB and taking into consideration the requirements in the ITB.</p> <p>11.2 Any requirement described in the Technical Bid but not priced in the Price Schedule, shall be assumed to be included in the prices of other activities or items, as well as in the final total price.</p> |
| 12. Bid Security | <p>12.1 A Bid Security, if required by BDS, shall be provided in the amount and form indicated in the BDS. The Bid Security shall be valid for a minimum of thirty (30) days after the final date of validity of the Bid.</p> <p>12.2 The Bid Security shall be included along with the Bid. If Bid Security is required by the ITB but is not found in the Bid, the offer shall be rejected.</p> <p>12.3 If the Bid Security amount or its validity period is found to be less than what is required by UNDP, UNDP shall reject the Bid.</p> <p>12.4 In the event an electronic submission is allowed in the BDS, Bidders shall include a copy of the Bid Security in their bid and the original of the Bid Security must be sent via courier or hand delivery as per the instructions in BDS.</p> <p>12.5 The Bid Security may be forfeited by UNDP, and the Bid rejected, in the event of any, or combination, of the following conditions:</p> |

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| | <ul style="list-style-type: none"> a) If the Bidder withdraws its offer during the period of the Bid Validity specified in the BDS, or; b) In the event the successful Bidder fails: <ul style="list-style-type: none"> i. to sign the Contract after UNDP has issued an award; or ii. to furnish the Performance Security, insurances, or other documents that UNDP may require as a condition precedent to the effectivity of the contract that may be awarded to the Bidder. |
| 13. Currencies | <p>13.1 All prices shall be quoted in the currency or currencies indicated in the BDS. Where Bids are quoted in different currencies, for the purposes of comparison of all Bids:</p> <ul style="list-style-type: none"> a) UNDP will convert the currency quoted in the Bid into the UNDP preferred currency, in accordance with the prevailing UN operational rate of exchange on the last day of submission of Bids; and b) In the event that UNDP selects a Bid for award that is quoted in a currency different from the preferred currency in the BDS, UNDP shall reserve the right to award the contract in the currency of UNDP's preference, using the conversion method specified above. |
| 14. Joint Venture, Consortium or Association | <p>14.1 If the Bidder is a group of legal entities that will form or have formed a Joint Venture (JV), Consortium or Association for the Bid, they shall confirm in their Bid that : (i) they have designated one party to act as a lead entity, duly vested with authority to legally bind the members of the JV, Consortium or Association jointly and severally, which shall be evidenced by a duly notarized Agreement among the legal entities, and submitted with the Bid; and (ii) if they are awarded the contract, the contract shall be entered into, by and between UNDP and the designated lead entity, who shall be acting for and on behalf of all the member entities comprising the joint venture.</p> <p>14.2 After the Deadline for Submission of Bid, the lead entity identified to represent the JV, Consortium or Association shall not be altered without the prior written consent of UNDP.</p> <p>14.3 The lead entity and the member entities of the JV, Consortium or Association shall abide by the provisions of Clause 9 herein in respect of submitting only one Bid.</p> <p>14.4 The description of the organization of the JV, Consortium or Association must clearly define the expected role of each of the entities in the joint venture in delivering the requirements of the ITB, both in the Bid and the JV, Consortium or Association Agreement. All entities that comprise the JV, Consortium or Association shall be subject to the eligibility and qualification assessment by UNDP.</p> <p>14.5 A JV, Consortium or Association in presenting its track record and experience should clearly differentiate between:</p> <ul style="list-style-type: none"> a) Those that were undertaken together by the JV, Consortium or Association; and b) Those that were undertaken by the individual entities of the JV, Consortium or Association. <p>14.6 Previous contracts completed by individual experts working privately but who are permanently or were temporarily associated with any of the member firms cannot be claimed as the experience of the JV, Consortium or Association or those of its members, but should only be claimed by the individual experts themselves in their presentation of their individual credentials</p> |

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| | 14.7 JV, Consortium or Associations are encouraged for high value, multi-sectoral requirements when the spectrum of expertise and resources required may not be available within one firm. |
| 15. Only One Bid | <p>15.1 The Bidder (including the individual members of any Joint Venture) shall submit only one Bid, either in its own name or as part of a Joint Venture.</p> <p>15.2 Bids submitted by two (2) or more Bidders shall all be rejected if they are found to have any of the following:</p> <ul style="list-style-type: none"> a) they have at least one controlling partner, director or shareholder in common; or b) any one of them receive or have received any direct or indirect subsidy from the other/s; or c) they have the same legal representative for purposes of this ITB; or d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about, or influence on the Bid of another Bidder regarding this ITB process; e) they are subcontractors to each other's Bid, or a subcontractor to one Bid also submits another Bid under its name as lead Bidder; or some key personnel proposed to be in the team of one Bidder participates in more than one Bid received for this ITB process. This condition relating to the personnel, does not apply to subcontractors being included in more than one Bid. |
| 16. Bid Validity Period | <p>16.1 Bids shall remain valid for the period specified in the BDS, commencing on the Deadline for Submission of Bids. A Bid valid for a shorter period may be rejected by UNDP and rendered non-responsive.</p> <p>16.2 During the Bid validity period, the Bidder shall maintain its original Bid without any change, including the availability of the Key Personnel, the proposed rates and the total price.</p> |
| 17. Extension of Bid Validity Period | <p>17.1 In exceptional circumstances, prior to the expiration of the Bid validity period, UNDP may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing, and shall be considered integral to the Bid.</p> <p>17.2 If the Bidder agrees to extend the validity of its Bid, it shall be done without any change to the original Bid.</p> <p>17.3 The Bidder has the right to refuse to extend the validity of its Bid, in which case, the Bid shall not be further evaluated.</p> |
| 18. Clarification of Bid (from the Bidders) | <p>18.1 Bidders may request clarifications on any of the ITB documents no later than the date indicated in the BDS. Any request for clarification must be sent in writing in the manner indicated in the BDS. If inquiries are sent other than specified channel, even if they are sent to a UNDP staff member, UNDP shall have no obligation to respond or confirm that the query was officially received.</p> <p>18.2 UNDP will provide the responses to clarifications through the method specified in the BDS.</p> <p>18.3 UNDP shall endeavour to provide responses to clarifications in an expeditious manner, but any delay in such response shall not cause an obligation on the part of UNDP to extend the submission date of the Bids, unless UNDP deems that such an extension is justified and necessary.</p> |

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| 19. Amendment of Bids | <p>19.1 At any time prior to the deadline of Bid submission, UNDP may for any reason, such as in response to a clarification requested by a Bidder, modify the ITB in the form of an amendment to the ITB. Amendments will be made available to all prospective bidders.</p> <p>19.2 If the amendment is substantial, UNDP may extend the Deadline for submission of Bid to give the Bidders reasonable time to incorporate the amendment into their Bids.</p> |
| 20. Alternative Bids | <p>20.1 Unless otherwise specified in the BDS, alternative Bids shall not be considered. If submission of alternative Bid is allowed by BDS, a Bidder may submit an alternative Bid, but only if it also submits a Bid conforming to the ITB requirements. Where the conditions for its acceptance are met, or justifications are clearly established, UNDP reserves the right to award a contract based on an alternative Bid.</p> <p>20.2 If multiple/alternative bids are being submitted, they must be clearly marked as "Main Bid" and "Alternative Bid"</p> |
| 21. Pre-Bid Conference | <p>21.1 When appropriate, a pre-bid conference will be conducted at the date, time and location specified in the BDS. All Bidders are encouraged to attend. Non-attendance, however, shall not result in disqualification of an interested Bidder. Minutes of the Bidder's conference will be disseminated on the procurement website and shared by email or on the e-Tendering platform as specified in the BDS. No verbal statement made during the conference shall modify the terms and conditions of the ITB, unless specifically incorporated in the Minutes of the Bidder's Conference or issued/posted as an amendment to ITB.</p> |

c. SUBMISSION AND OPENING OF BIDS

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| 22. Submission | <p>22.1 The Bidder shall submit a duly signed and complete Bid comprising the documents and forms in accordance with requirements in the BDS. The Price Schedule shall be submitted together with the Technical Bid. Bid can be delivered either personally, by courier, or by electronic method of transmission as specified in the BDS.</p> <p>22.2 The Bid shall be signed by the Bidder or person(s) duly authorized to commit the Bidder. The authorization shall be communicated through a document evidencing such authorization issued by the legal representative of the bidding entity, or a Power of Attorney, accompanying the Bid.</p> <p>22.3 Bidders must be aware that the mere act of submission of a Bid, in and of itself, implies that the Bidder fully accepts the UNDP General Contract Terms and Conditions.</p> |
| Hard copy (manual) submission | <p>22.4 Hard copy (manual) submission by courier or hand delivery allowed or specified in the BDS shall be governed as follows:</p> <p>a) The signed Bid shall be marked "Original", and its copies marked "Copy" as appropriate. The number of copies is indicated in the BDS. All copies shall be made from the signed original only. If there are discrepancies between the original and the copies, the original shall prevail.</p> <p>(b) The Technical Bid and Price Schedule must be sealed and submitted together in an envelope, which shall:</p> <ol style="list-style-type: none"> Bear the name of the Bidder; Be addressed to UNDP as specified in the BDS; and Bear a warning not to open before the time and date for Bid opening |

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| | <p>as specified in the BDS.</p> <p>If the envelope with the Bid is not sealed and marked as required, UNDP shall assume no responsibility for the misplacement, loss, or premature opening of the Bid.</p> |
| Email and eTendering submissions | <p>22.5 Electronic submission through email or eTendering, if allowed as specified in the BDS, shall be governed as follows:</p> <ul style="list-style-type: none"> a) Electronic files that form part of the Bid must be in accordance with the format and requirements indicated in BDS; b) Documents which are required to be in original form (e.g. Bid Security, etc.) must be sent via courier or hand delivered as per the instructions in BDS. <p>22.6 Detailed instructions on how to submit, modify or cancel a bid in the eTendering system are provided in the eTendering system Bidder User Guide and Instructional videos available on this link: https://www.undp.org/content/undp/en/home/procurement/business/resources-for-bidders</p> |
| 23. Deadline for Submission of Bids and Late Bids | <p>23.1 Complete Bids must be received by UNDP in the manner, and no later than the date and time, specified in the BDS. UNDP shall only recognise the actual date and time that the bid was received by UNDP</p> <p>23.2 UNDP shall not consider any Bid that is received after the deadline for the submission of Bids.</p> |
| 24. Withdrawal, Substitution, and Modification of Bids | <p>24.1 A Bidder may withdraw, substitute or modify its Bid after it has been submitted at any time prior to the deadline for submission.</p> <p>24.2 Manual and Email submissions: A bidder may withdraw, substitute or modify its Bid by sending a written notice to UNDP, duly signed by an authorized representative, and shall include a copy of the authorization (or a Power of Attorney). The corresponding substitution or modification of the Bid, if any, must accompany the respective written notice. All notices must be submitted in the same manner as specified for submission of Bids, by clearly marking them as "WITHDRAWAL," "SUBSTITUTION," or "MODIFICATION"</p> <p>24.3 eTendering: A Bidder may withdraw, substitute or modify its Bid by Cancelling, Editing, and re-submitting the Bid directly in the system. It is the responsibility of the Bidder to properly follow the system instructions, duly edit and submit a substitution or modification of the Bid as needed. Detailed instructions on how to cancel or modify a Bid directly in the system are provided in the Bidder User Guide and Instructional videos.</p> <p>24.4 Bids requested to be withdrawn shall be returned unopened to the Bidders (only for manual submissions), except if the bid is withdrawn after the bid has been opened.</p> |
| 25. Bid Opening | <p>25.1 UNDP will open the Bid in the presence of an ad-hoc committee formed by UNDP of at least two (2) members.</p> <p>25.2 The Bidders' names, modifications, withdrawals, the condition of the envelope labels/seals, the number of folders/files and all other such other details as UNDP may consider appropriate, will be announced at the opening. No Bid shall be rejected at the opening stage, except for late submissions, in which case, the Bid shall be returned unopened to the Bidders.</p> <p>25.3 In the case of e-Tendering submission, bidders will receive an automatic notification once the Bid is opened.</p> |

D. EVALUATION OF BIDS

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| 26. Confidentiality | <p>26.1 Information relating to the examination, evaluation, and comparison of Bids, and the recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process, even after publication of the contract award.</p> <p>26.2 Any effort by a Bidder or anyone on behalf of the Bidder to influence UNDP in the examination, evaluation and comparison of the Bids or contract award decisions may, at UNDP's decision, result in the rejection of its Bid and may subsequently be subject to the application of prevailing UNDP's vendor sanctions procedures.</p> |
| 27. Evaluation of Bids | <p>27.1 UNDP will conduct the evaluation solely on the basis of the Bids received.</p> <p>27.2 Evaluation of Bids shall be undertaken in the following steps:</p> <ul style="list-style-type: none"> a) Preliminary Examination including Eligibility b) Arithmetical check and ranking of bidders who passed preliminary examination by price. c) Qualification assessment (if pre-qualification was not done) a) Evaluation of Technical Bids b) Evaluation of prices <p>Detailed evaluation will be focussed on the 3 - 5 lowest priced bids. Further higher priced bids shall be added for evaluation if necessary</p> |
| 28. Preliminary Examination | <p>28.1 UNDP shall examine the Bids to determine whether they are complete with respect to minimum documentary requirements, whether the documents have been properly signed, and whether the Bids are generally in order, among other indicators that may be used at this stage. UNDP reserves the right to reject any Bid at this stage.</p> |
| 29. Evaluation of Eligibility and Qualification | <p>29.1 Eligibility and Qualification of the Bidder will be evaluated against the Minimum Eligibility/Qualification requirements specified in the Section 4 (Evaluation Criteria).</p> <p>29.2 In general terms, vendors that meet the following criteria may be considered qualified:</p> <ul style="list-style-type: none"> a) They are not included in the UN Security Council 1267/1989 Committee's list of terrorists and terrorist financiers, and in UNDP's ineligible vendors' list; b) They have a good financial standing and have access to adequate financial resources to perform the contract and all existing commercial commitments, c) They have the necessary similar experience, technical expertise, production capacity, quality certifications, quality assurance procedures and other resources applicable to the supply of goods and/or services required; d) They are able to comply fully with the UNDP General Terms and Conditions of Contract; e) They do not have a consistent history of court/arbitral award decisions against the Bidder; and f) They have a record of timely and satisfactory performance with their clients. |
| 30. Evaluation of Technical Bid and prices | <p>30.1 The evaluation team shall review and evaluate the Technical Bids on the basis of their responsiveness to the Schedule of Requirements and Technical Specifications and other documentation provided, applying the procedure indicated in the BDS and other ITB documents. When necessary, and if stated in the BDS, UNDP may invite technically responsive bidders for a presentation related to their technical Bids. The conditions for the presentation shall be</p> |

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| | provided in the bid document where required. |
| 31. Due diligence | <p>31.1 UNDP reserves the right to undertake a due diligence exercise, aimed at determining to its satisfaction, the validity of the information provided by the Bidder. Such exercise shall be fully documented and may include, but need not be limited to, all or any combination of the following:</p> <ul style="list-style-type: none"> a) Verification of accuracy, correctness and authenticity of information provided by the Bidder; b) Validation of extent of compliance to the ITB requirements and evaluation criteria based on what has so far been found by the evaluation team; c) Inquiry and reference checking with Government entities with jurisdiction on the Bidder, or with previous clients, or any other entity that may have done business with the Bidder; d) Inquiry and reference checking with previous clients on the performance on on-going or completed contracts, including physical inspections of previous works, as deemed necessary; e) Physical inspection of the Bidder's offices, branches or other places where business transpires, with or without notice to the Bidder; f) Other means that UNDP may deem appropriate, at any stage within the selection process, prior to awarding the contract. |
| 32. Clarification of Bids | <p>32.1 To assist in the examination, evaluation and comparison of Bids, UNDP may, at its discretion, request any Bidder for a clarification of its Bid.</p> <p>32.2 UNDP's request for clarification and the response shall be in writing and no change in the prices or substance of the Bid shall be sought, offered, or permitted, except to provide clarification, and confirm the correction of any arithmetic errors discovered by UNDP in the evaluation of the Bids, in accordance with the ITB.</p> <p>32.3 Any unsolicited clarification submitted by a Bidder in respect to its Bid, which is not a response to a request by UNDP, shall not be considered during the review and evaluation of the Bids.</p> |
| 33. Responsiveness of Bid | <p>33.1 UNDP's determination of a Bid's responsiveness will be based on the contents of the bid itself. A substantially responsive Bid is one that conforms to all the terms, conditions, specifications and other requirements of the ITB without material deviation, reservation, or omission.</p> <p>33.2 If a bid is not substantially responsive, it shall be rejected by UNDP and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission.</p> |
| 34. Nonconformities, Repairable Errors and Omissions | <p>34.1 Provided that a Bid is substantially responsive, UNDP may waive any non-conformities or omissions in the Bid that, in the opinion of UNDP, do not constitute a material deviation.</p> <p>34.2 UNDP may request the Bidder to submit the necessary information or documentation, within a reasonable period, to rectify nonmaterial nonconformities or omissions in the Bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.</p> <p>34.3 For the bids that have passed the preliminary examination, UNDP shall check and correct arithmetical errors as follows:</p> <ul style="list-style-type: none"> a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall |

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| | <p>prevail and the line item total shall be corrected, unless in the opinion of UNDP there is an obvious misplacement of the decimal point in the unit price; in which case, the line item total as quoted shall govern and the unit price shall be corrected;</p> <p>b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and</p> <p>c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail.</p> <p>34.4 If the Bidder does not accept the correction of errors made by UNDP, its Bid shall be rejected.</p> |
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E. AWARD OF CONTRACT

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| 35. Right to Accept, Reject, Any or All Bids | 35.1 UNDP reserves the right to accept or reject any bid, to render any or all of the bids as non-responsive, and to reject all Bids at any time prior to award of contract, without incurring any liability, or obligation to inform the affected Bidder(s) of the grounds for UNDP's action. UNDP shall not be obliged to award the contract to the lowest priced offer. |
| 36. Award Criteria | 36.1 Prior to expiration of the period of Bid validity, UNDP shall award the contract to the qualified and eligible Bidder that is found to be responsive to the requirements of the Schedule of Requirements and Technical Specification, and has offered the lowest price. |
| 37. Debriefing | 37.1 In the event that a Bidder is unsuccessful, the Bidder may request for a debriefing from UNDP. The purpose of the debriefing is to discuss the strengths and weaknesses of the Bidder's submission, in order to assist the Bidder in improving its future Bids for UNDP procurement opportunities. The content of other Bids and how they compare to the Bidder's submission shall not be discussed. |
| 38. Right to Vary Requirements at the Time of Award | 38.1 At the time of award of Contract, UNDP reserves the right to vary the quantity of goods and/or services, by up to a maximum twenty-five per cent (25%) of the total offer, without any change in the unit price or other terms and conditions. |
| 39. Contract Signature | 39.1 Within fifteen (15) days from the date of receipt of the Contract, the successful Bidder shall sign and date the Contract and return it to UNDP. Failure to do so may constitute sufficient grounds for the annulment of the award, and forfeiture of the Bid Security, if any, and on which event, UNDP may award the Contract to the Second highest rated or call for new Bids. |
| 40. Contract Type and General Terms and Conditions | 40.1 The types of Contract to be signed and the applicable UNDP Contract General Terms and Conditions, as specified in BDS, can be accessed at http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html |
| 41. Performance Security | 41.1 A performance security, if required in the BDS, shall be provided in the amount specified in BDS and form available at https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Solicitation_Performance%20Guarantee%20Form.docx&action=default within a maximum of fifteen (15) days of the contract signature by both parties. Where a performance security is required, the |

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| | receipt of the performance security by UNDP shall be a condition for rendering the contract effective. |
| 42. Bank Guarantee for Advanced Payment | <p>42.1 Except when the interests of UNDP so require, it is UNDP's standard practice to not make advance payment(s) (i.e., payments without having received any outputs). If an advance payment is allowed as per the BDS, and exceeds 20% of the total contract price, or USD 30,000, whichever is less, the Bidder shall submit a Bank Guarantee in the full amount of the advance payment in the form available at</p> <p>https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Contract%20Management%20Payment%20and%20Taxes_Advanced%20Payment%20Guarantee%20Form.docx&action=default</p> |
| 43. Liquidated Damages | <p>43.1 If specified in the BDS, UNDP shall apply Liquidated Damages for the damages and/or risks caused to UNDP resulting from the Contractor's delays or breach of its obligations as per Contract.</p> |
| 44. Payment Provisions | <p>44.1 Payment will be made only upon UNDP's acceptance of the goods and/or services performed. The terms of payment shall be within thirty (30) days, after receipt of invoice and certification of acceptance of goods and/or services issued by the proper authority in UNDP with direct supervision of the Contractor. Payment will be effected by bank transfer in the currency of the contract.</p> |
| 45. Vendor Protest | <p>45.1 UNDP's vendor protest procedure provides an opportunity for appeal to those persons or firms not awarded a contract through a competitive procurement process. In the event that a Bidder believes that it was not treated fairly, the following link provides further details regarding UNDP vendor protest procedures:</p> <p>http://www.undp.org/content/undp/en/home/procurement/business/protest-and-sanctions.html</p> |
| 46. Other Provisions | <p>46.1 In the event that the Bidder offers a lower price to the host Government (e.g. General Services Administration (GSA) of the federal government of the United States of America) for similar goods and/or services, UNDP shall be entitled to the same lower price. The UNDP General Terms and Conditions shall have precedence.</p> <p>46.2 UNDP is entitled to receive the same pricing offered by the same Contractor in contracts with the United Nations and/or its Agencies. The UNDP General Terms and Conditions shall have precedence.</p> <p>46.3 The United Nations has established restrictions on employment of (former) UN staff who have been involved in the procurement process as per bulletin ST/SGB/2006/15</p> <p>http://www.un.org/en/ga/search/view_doc.asp?symbol=ST/SGB/2006/15&referer</p> |

SECTION 3. BID DATA SHEET

The following data for the goods and/or services to be procured shall complement, supplement, or amend the provisions in the Invitation to Bid. In the case of a conflict between the Instructions to Bidders, the Bid Data Sheet, and other annexes or references attached to the Bid Data Sheet, the provisions in the Bid Data Sheet shall prevail.

| BDS No. | Ref. to Section.2 | Data | Specific Instructions / Requirements |
|---------|-------------------|---|---|
| 1 | 7 | Language of the Bid | English |
| 2 | | Submitting Bids for Parts or sub-parts of the Schedule of Requirements (partial bids) | Not Allowed |
| 3 | 20 | Alternative Bids | Shall not be considered |
| 4 | 21 | Pre-Bid conference | <p>Will be Conducted</p> <p>Time: 03.00PM -04.00PM (Ha Noi time)</p> <p>Date: 24 Sep 2021</p> <p>Venue : Zoom link to be sent to registered bidders.</p> <p><u>Bidders should register 1 day in advance to participate in the pre-bid conference.</u></p> <p>The UNDP focal point for the arrangement is:</p> <p>Nguyen Thuy Nga</p> <p>Telephone: +84-0243 8501831</p> <p>E-mail: nguyen.thuy.nga@undp.org</p> |
| 5 | 16 | Bid Validity Period | 90 days |
| 6 | 13 | Bid Security | Not Required |
| 7 | 41 | Advanced Payment upon signing of contract | Not Allowed |
| 8 | 42 | Liquidated Damages | Will not be imposed |
| 9 | 40 | Performance Security | 10% of the signed contract amount |
| 10 | 12 | Currency of Bid | United States Dollar |
| 11 | 31 | Deadline for submitting requests for clarifications/ questions | 03 days before the submission deadline |
| 12 | 31 | Contact Details for submitting clarifications/questions | <p>Focal Person in UNDP: Nguyen Thuy Nga</p> <p>Address: 304 Kim Ma street, Ha Noi, Viet Nam</p> |

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| | | | E-mail address: nguyen.thuy.nga@undp.org |
| 13 | 18, 19 and 21 | Manner of Disseminating Supplemental Information to the ITB and responses/clarifications to queries | Posted directly to eTendering And UNDP website |
| 14 | 23 | Deadline for Submission | As indicated in eTendering system. Note that system time zone is in EST/EDT (New York) time zone. <u>PLEASE NOTE:</u> 1. Date and time visible on the main screen of event (on e-tendering portal) will be final and prevail over any other closing time indicated elsewhere, in case they are different. Please also note that the bid closing time shown in the PDF file generated by the system is not accurate due to a technical glitch that we will resolve soon. The correct bid closing time is as indicated in the e-tendering portal and system will not accept any bid after that time. It is the responsibility of the bidder to make sure bids are submitted within this deadline. UNDP will not accept any bid that is not submitted directly in the system. 2. Try to submit your bid a day prior or well before the closing time. Do not wait until last minute. If you face any issue submitting your bid at the last minute, UNDP may not be able to assist. |
| 14 | 22 | Allowable Manner of Submitting Bids | <input type="checkbox"/> Courier/Hand Delivery <input type="checkbox"/> Submission by email <input checked="" type="checkbox"/> e-Tendering <u>PLEASE NOTE: Proposals submitted by courier/hand delivery or email will be rejected.</u> |
| 15 | 22 | Bid Submission Address | https://etendering.partneragencies.org <u>Insert BU Code and Event ID number</u> <u>BU Code: VNM10</u> <u>Event ID number: N-210901</u> |
| 16 | 22 | Electronic submission (eTendering) requirements | <ul style="list-style-type: none"> Format: pdf, excel, word, zipped files File names must be maximum 60 characters long and must not contain any letter or special character other than from Latin alphabet/keyboard. All files must be free of viruses and not corrupted. Max. File Size per transmission: 30MB Financial offer to be submitted in <u>both</u> formats: pdf file and excel file for the price calculation. |

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| 17 | 25 | Date, time and venue for the opening of bid | bidders will receive an automatic notification once their Bids are opened. |
| 18 | 27, 36 | Evaluation Method for the Award of Contract | Lowest priced technically responsive, eligible and qualified bid. |
| 19 | | Expected date for commencement of Contract | October 29, 2021 |
| 20 | | Maximum expected duration of contract | 9 months |
| 21 | 35 | UNDP will award the contract to: | One Proposer Only |
| 22 | 39 | Type of Contract | Contract for Goods and/or Services to UNDP http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html |
| 23 | 39 | UNDP Contract Terms and Conditions that will apply | UNDP General Terms and Conditions for Contracts http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html |
| 24 | | Other Information Related to the ITB | <p>Bidders are responsible for checking the UNDP website: https://etendering.partneragencies.org and http://www.vn.undp.org/content/vietnam/en/home/operations/procurement/procurement_notices.html</p> <p>for any addenda and updated deadline to this Invitation to Bid. UNDP reserves the right to post addenda up to the closing date for submissions. Hence bidders are advised to check the UNDP website frequently prior to submitting their bids. Bids submission by courier/hand delivery or email is not allowed.</p> <p>Visit this page for system user guides and videos in different languages: https://www.undp.org/procurement/business/resources-for-bidders</p> <p>If already registered, go to https://etendering.partneragencies.org and sign in using your username and password.</p> <p>Use "Forgotten password" link if you do not remember your password. Do not create a new profile.</p> <p>If you have never registered in the system before, you can register by visiting the link below and follow the instructions</p> |

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| | | | <p>in the user guide (attached):</p> <p>https://etendering.partneragencies.org</p> <p>Username: event.guest</p> <p>Password: why2change</p> <p>It is strongly recommended to create a username with two parts: your first name and last name separated by a ".", (similar to the one shown above). Once registered you will receive a valid password to the registered email address which you can use for signing in and changing your password.</p> <p>Please note that your new password should meet the following criteria:</p> <ul style="list-style-type: none"> • Minimum 8 characters • At least one UPPERCASE LETTER • At least one lowercase letter • At least one number <p>You can view and download tender documents with the guest account as per the above username and password. However, if you are interested to participate, you must register in the system and subscribe to this tender to be notified when amendments are made.</p> |
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SECTION 4. EVALUATION CRITERIA

Preliminary Examination Criteria

Bids will be examined to determine whether they are complete and submitted in accordance with ITB requirements as per below criteria on a Yes/No basis:

- Appropriate signatures
- Minimum Bid documents provided
- Bid Validity

Minimum Eligibility and Qualification Criteria

Eligibility and Qualification will be evaluated on a Pass/Fail basis.

If the Bid is submitted as a Joint Venture/Consortium/Association, each member should meet the minimum criteria:

| Subject | Criteria | Document Submission requirement |
|--|---|---|
| ELIGIBILITY | | |
| Legal Status | Vendor (lead firm in case of joint venture) is a legally registered entity and allowed to provide this service under relevant laws of Viet Nam. | Form B: Bidder Information Form with valid business license |
| Eligibility | Vendor is not suspended, nor debarred, nor otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization in accordance with ITB clause 3. | Form A: Bid Submission Form |
| Conflict of Interest | No conflicts of interest in accordance with ITB clause 4. | Form A: Bid Submission Form |
| Bankruptcy | Has not declared bankruptcy, is not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against the vendor that could impair its operations in the foreseeable future. | Form A: Bid Submission Form |
| QUALIFICATION | | |
| History of Non-Performing Contracts¹ | Non-performance of a contract did not occur as a result of contractor default for the last 3 years. | Form D: Qualification Form |
| Litigation History | No consistent history of court/arbitral award decisions against the Bidder for the last 3 years. | Form D: Qualification Form |

¹ Non-performance, as decided by UNDP, shall include all contracts where (a) non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

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| Previous Experience | 5 years of relevant experience. (One member of a Joint Venture/Consortium/Association meeting this requirement is accepted) | Form D: Qualification Form |
| | 2 contracts of similar value, nature and complexity implemented over the last 5 years. (Contracts of all joint venture/consortium members will be counted) | Form D: Qualification Form |
| Financial Standing (applied to lead firm for a Joint Venture/Consortium/Association) | Minimum average annual turnover of USD400,000 for the last 3 years. | Form D: Qualification Form |
| | Bidder must demonstrate the current soundness of its financial standing and indicate its prospective long-term profitability. | Form D: Qualification Form |
| Technical Evaluation | <p>The technical bids shall be evaluated as follows:</p> <p>Step 1: pass/fail basis for compliance or non-compliance with the technical specifications, warranty of all required equipment. Only bids offering all required equipment listed in the ITB and all equipment meeting required specifications and warranty duration will be assessed at step 2;</p> <p>Step 2: bids passing step 1 will be evaluated based on the evaluation criteria for services identified in the bid document (section I.9 in the TOR). Bids achieving from 70% of technical scores are technically qualified for financial evaluation</p> | Form E: Technical Bid Form |
| Financial Evaluation | <p>To be conducted for bids achieving from 70% of technical scores. Detailed analysis of the price schedule based on requirements listed in Section 5 and quoted by the bidders in Form F.</p> <p>Price comparison shall be based on the landed price, including transportation, insurance, customs clearance and the total cost of ownership (including installation, commissioning, training, etc.)</p> | Form F: Price Schedule Form |
| Award of contract | <p>Bid achieving from 70% of technical scores and offering lowest price will be selected</p> <p>In case more than one bidder is technically qualified and they provide financial proposal with the same total price, bidder with higher technical scores will be selected.</p> | |

SECTION 5: TOR WITH EQUIPMENT AND RELATED SERVICES REQUIREMENT

TERMS OF REFERENCE

Firm/Institution/Organization

1.1 GENERAL INFORMATION

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| Project/Program title | <i>Improving the resilience of vulnerable coastal communities to climate change related impacts in Viet Nam</i> |
| Assignment | Development of community-based disaster monitoring and warning system for coastal areas |
| Activity Code | 3.1.7.3 UN |
| Contract Type | Institutional contract (Consultancy firm/Lump sum contract) |
| Location | Hanoi and 7 provinces: Nam Dinh, Thanh Hoa, Quang Binh, Thua Thien Hue, Quang Nam, Quang Ngai, and Ca Mau. |
| Contract Period | Q4/2021 – Q2/2022 |
| Report to | National Project Director of GCF Project and UNDP Senior Technical Advisor |
| Coordination | VNDMA (Department of Science, Technology and International Cooperation), supervision consultant team and UNDP |

1.2 PROJECT DESCRIPTION

Viet Nam is one of the most vulnerable countries to climate change. The Government of Viet Nam (GoV) launched significant efforts to respond to these threats, including the promulgation of the national strategy and action plan to respond to climate change, a green growth strategy and implementation plans, and legal framework and policies relating to disaster risk management.

UNDP is coordinating with the Ministry of Agriculture and Rural Development (MARD), the Ministry of Construction (MoC), the Ministry of Planning and Investment (MPI) and seven provinces (Nam Dinh, Thanh Hoa, Thua Thien Hue, Quang Ngai, Quang Binh, Quang Nam, and Ca Mau) in the implementation of the Green Climate Fund (GCF) funded project “Improving the resilience of vulnerable coastal communities to climate change related impacts in Viet Nam” (GCF Project) during 2017 – 2022.

Building on the government's on-going social protection program, the GCF Project is working to address housing needs for 20,000 people from poor and marginalized communities, by incorporating storm and flood-resilient housing design features in the construction of new houses. As part of an integrated response to managing flood and storm risks, 4,000 hectares of mangroves will also be rehabilitated and/or planted to function as storm surge buffers and to provide ecosystem resources that can support coastal livelihoods. Moreover, to support and sustain the impact of the GCF Project as well as future requisite government policy adjustments that strengthen the resilience of communities, resources will be used to systematize climate and economic risk assessments for private and public utilization in 28 coastal provinces in Viet Nam.

The goal of the GCF Project is to increase the resiliency of vulnerable coastal communities to the effects of climate change in Viet Nam. The specific objectives of the project are as follows:

1. **Component 1:** Storm and flood-resilient design features added to 4,000 new houses on safe sites, benefiting 20,000 poor and highly disaster-exposed people in 100 communes;
2. **Component 2:** Regeneration of 4,000 hectares of coastal mangrove storm surge buffer zones using successful evidence-based approaches;
3. **Component 3:** Increased access to enhanced climate, damage and loss data for private and public sector application in all 28 coastal provinces of Viet Nam.

The GCF Project is currently assisting the Viet Nam Disaster Management Authority (VNDMA)/MARD in the development of an information system and database on disaster management and climate change adaption. One of the key tasks of the VNDMA is the implementation of GoV's Program 1002 (Program 553 from 2021) on community-based disaster risk management (CBDRM) and capacity building of information systems for disaster early warning.

With the support of the GCF Project, in 2018-2020, CBDRM training courses were organized in 373 coastal and near-coastal communes, contributing to the implementation of the GoV's Program 1002 (Program 553 from 2021). During these courses, commune authorities jointly identified disaster risk reduction solutions and action plans to strengthen disaster preparedness and response capacity. All commune CBDRM reports have identified solutions to strengthen community-based early warning capacity so that communities can be better prepared for disasters.

In addition, the Standing Office of the National Steering Committee for Natural Disaster Prevention and Control (NSCNDPC) implemented the project "Installing 08 storm monitoring sets, including surveillance cameras, wind-measuring stations and rain gauges at key sea dyke locations, to both monitor storms and boats and ships from Quang Ninh to

Thanh Hoa provinces” in 2019². This pilot project proved effective during the response to Typhoon Sinlaku in 2020, and has been highly recommended by the NSCNDPC and VNDMA leaders.

Therefore, in order to improve community-level early warning capacities, on-site early warning systems are necessary for coastal communes where CBDRM courses have been implemented.

1.3 OBJECTIVES AND SCOPE OF WORK

This Terms of Reference (TOR) is formulated to support the implementation of the project “Improving the resilience of vulnerable coastal communities to climate change related impacts in Viet Nam” funded by GCF. The consultancy firm will work closely with the VNDMA and UNDP to ensure successful implementation of this assignment.

1.3.1. Overall objective

The overall objective of this assignment is to enhance community-based early warning systems in 24 high-risk communes of 7 provinces.

1.3.2. Scope of work

- Install community-based early warning systems in 24 high-risk communes of 7 provinces (see details in Section 1.4, item [A. Station design and quantity requirements](#) and [Table 1](#));
- Install 24 weather monitoring stations (for measuring wind, rainfall, air temperature, and air pressure), including information monitors and surveillance IP cameras to support the detection of signs for potential disasters caused by typhoons and storms, storm surge, heavy rainfall, strong wind, gale, drought, heatwaves and damaging cold in coastal areas;
- Install 26 additional monitors displaying real-time monitoring data and extreme weather information in the offices of CNDPCSR at the district and provincial levels (7 provinces & 19 districts, see [Table 1](#) for details).
- Develop a software to convert data into early warning information that is easily understandable for local communities.
- Connect data with the VNDMA’s Disaster Management System (VNDMS), in order to ensure support to data transmission to VNDMA on a regular basis (see

² In addition of camera data, the 8 existing weather stations monitor three indicators i.e., the wind speed, wind direction and rainfall. The wind speed, the wind direction and rainfall measurement use solar system power and the camera use the electricity supplied from the national power grid due to the high-power requirement

reference document of data relevant to natural disaster prevention and control in Appendix 2); Develop a software on an available VNDMA's server³ located at the Disaster Management Policy and Technology Center of VNDMA in Hanoi to directly manage and download data from measuring equipment from the field.

- Organize 7 training sessions (with estimated maximum participants of 30 persons for each training course in each province) on how to test and use and manage the early warning information, and the production of simple and easy warning messages for officials of steering committees at provincial and district centers, as well as communes, hamlets, villages, and local communities⁴;
- Organize 01 national technical workshop with VNDMA, UNDP and other stakeholders in Hanoi, with online participation of provinces, districts and 24 communes (with EWS). Total estimated number of in-person participants at the national level is 30 persons.
- Develop tools to support the transmission of SMS messages to disaster management officers and other relevant stakeholders in disaster-affected areas; and
- Hand over the systems to the relevant authorities in consultation with VNDMA, UNDP, provincial, district and commune level authorities.

1.4 REQUIREMENTS FOR IMPLEMENTATION SOLUTIONS

1.4.1. Required implementation solutions

A. Station design and quantity requirements

In 2019 the Standing Office of the CCNDPC implemented a project which included installation of 08 storm-response monitoring points, surveillance camera equipment (IP camera), wind measuring stations, rain measurement at critical sea dyke locations as well as monitoring of ships and boats in the provinces from Quang Ninh to Thanh Hoa. This was a successful project and the installed systems are still in a working condition and are functioning well. Hence, the GCF Project is replicating this successful model in coastal communes and districts of 7 provinces: Nam Dinh (1 additional commune); Thanh Hoa (1 additional commune); Quang Binh (5 communes); Thua Thien Hue (5 communes); Quang Nam (5 communes); Quang Ngai (5 communes); and Ca Mau (2 communes).

³ Existing VNDMA Server specifications: **Dell r540**: CPU 2 x Intel® Xeon® Gold 5122 Processor 16.5M Cache, 3.60 GHz/4 x 32GB PC4-21300 ECC 2666 MHz DIMMs RAM/ 6 x 2TB Dell 7.2K RPM NLSAS 12Gbps 3.5" HDD/H730P RAID Controller Mini Mono/ Slim 8X DVD+/-RW 9.5mm Internal Drive/ Rackmount 2U/2lan

In addition, the VNDMA has a backup server. UNDP and VNDMA will share the detailed configuration of backup server to the consultancy firm during the implementation phase.

⁴ The minimum duration of each training is proposed to be 1 full day.

The Table 1 provides an overview of all of 24 coastal communes where CBDRM trainings were organized by the GCF Project in 2018 and 2019. These are the communes where the 24 weather stations will be located. The table also provides the list of 19 districts and 7 provinces where 26 additional monitors will be installed.

Table 1. List of weather stations in 7 provinces

| No | Province | No of stations | District/cities | Commune/ward |
|----|----------------|----------------|----------------------------|--------------------------|
| 1 | Nam Dinh | 1 | Giao Thuy | Giao Lac |
| 2 | Thanh Hoa | 1 | Nghi Son town | Tinh Hai |
| 3 | Quang Binh | 5 | Quang Trach | Quang Phu |
| | | | Bo Trach | Duc Trach and Nhan Trach |
| | | | Quang Ninh | Hai Ninh |
| | | | Le Thuy | Ngu Thuy Trung |
| 4 | Thua Thien Hue | 5 | Phu Loc | Loc Vinh, Lang Co |
| | | | Phong Dien | Dien Loc |
| | | | Phu Vang | Thuan An, Vinh Thanh |
| 5 | Quang Nam | 5 | Hoi An city | Cua Dai |
| | | | Duy Xuyen | Duy Hai |
| | | | Thang Binh | Binh Hai |
| | | | Nui Thanh | Tam Quang |
| | | | Tam Ky city | Tam Thanh |
| 6 | Quang Ngai | 5 | Binh Son | Binh Thanh and Binh Chau |
| | | | Mo Duc | Duc Thang |
| | | | Duc Pho | Pho Quang and Pho Thanh |
| 7 | Ca Mau | 2 | Dam Doi | Tan Thuan |
| | | | Ngoc Hien | Dat Mui |
| | Total | 24 | 19 districts/cities | 24 communes/wards |

The consultancy firm will conduct field surveys, identify the locations for the 24 stations in close consultation with VNDMA, UNDP and local authorities. The consultancy firm shall work in close collaboration with local authority to get the permission for the installation of stations and to draw up detailed plans for:

- Installation of the equipment;
- Connecting equipment to the VNDMA information management system;
- Signing power supply contracts with local electricity suppliers and connecting electricity to the 24 stations;

- Signing contracts with local internet suppliers and connecting internet to the 24 stations (in case if the consultancy firm does not use high-speed 3G/4G internet transmitters to transfer monitoring data from measurement stations to 26 monitors in CNDPCSR offices of the district and provincial levels, and the VNDMA's server at the national level);

UNDP requires the consultancy firm to carry out maintenance, warranty and continue supporting the operation of the whole system for 2 years after the completion of the construction and handover of the system to local authorities, UNDP and VNDMA.

B. Implementation model

The data management model for 24 stations is displayed in the Diagrams 1 and 2 below:

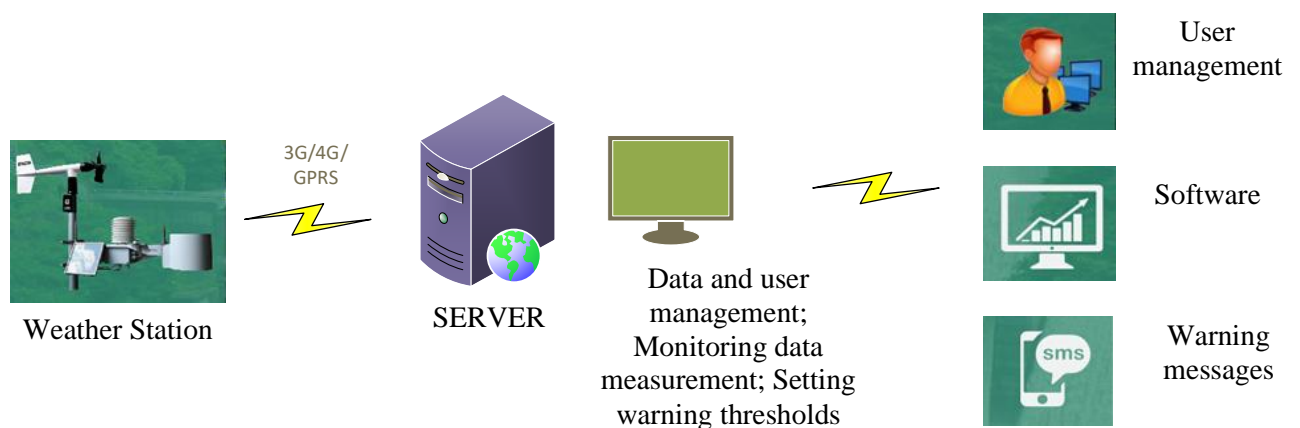


Diagram 1. Monitoring station connection diagram.

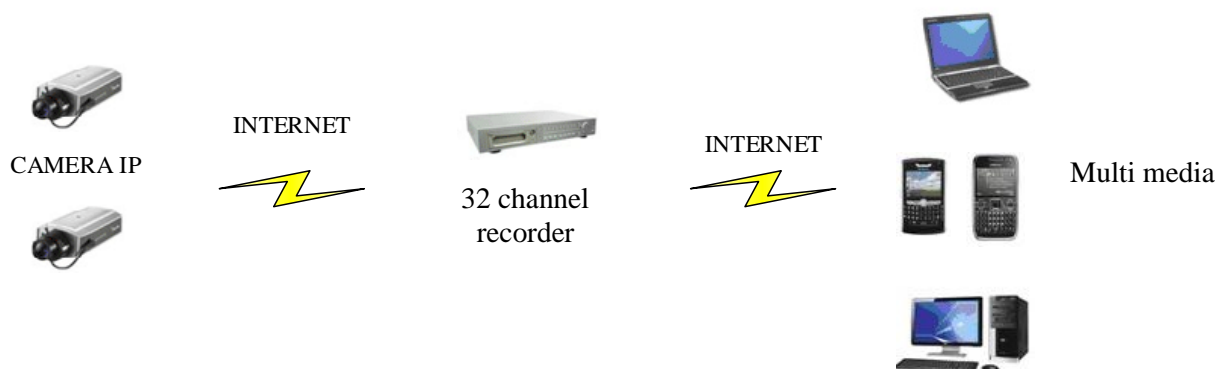


Diagram 2. Monitoring IP camera connection diagram.

C. Technical requirements for weather stations

1. Hardware requirements

a) General requirements

- The equipment used for the stations must be brand new, integrating latest/advanced technologies, have high accuracy and solid durability. The equipment should be of reasonable price, and meet the technical requirements defined in Table 2. The equipment should be suitable for coastal conditions/environment. Further, it should be easily repairable, and have a warranty and maintenance for two years in accordance with the climatic conditions at the place where the equipment is installed.
- The automatic monitoring stations should include equipment for measuring rain, wind speed, wind direction, air temperature and air pressure. These sensors for measuring wind, rain, air temperature and air pressure must comply with standards used by the Vietnam Meteorological and Hydrological Administration (VMHA). These standards are stipulated in the [circular No. 30/2018/TT-BTNMT dated 26 December 2018 of MONRE](#), which include relevant regulations and technical standards for hydro-meteorological/weather stations to be deployed in the country (in line with the [Law on Hydrometeorology of Vietnam](#) and WMO recommendations⁵).
- The equipment should be calibrated in line with the requirements stipulated in the Law on Hydrometeorology of Vietnam.
- The monitoring stations should use solar power systems, except for the IP cameras. Due to the high-power usage, the cameras are proposed to use the electricity supplied from the national power grid.
- The proposed set-up of the 24 stations is illustrated in the Diagram 3 (the consultancy firm may offer other solutions as well, if it follows best international practice).

⁵ [WMO - No.8. Guide to Meteorological Instruments and Methods of Observation](#)

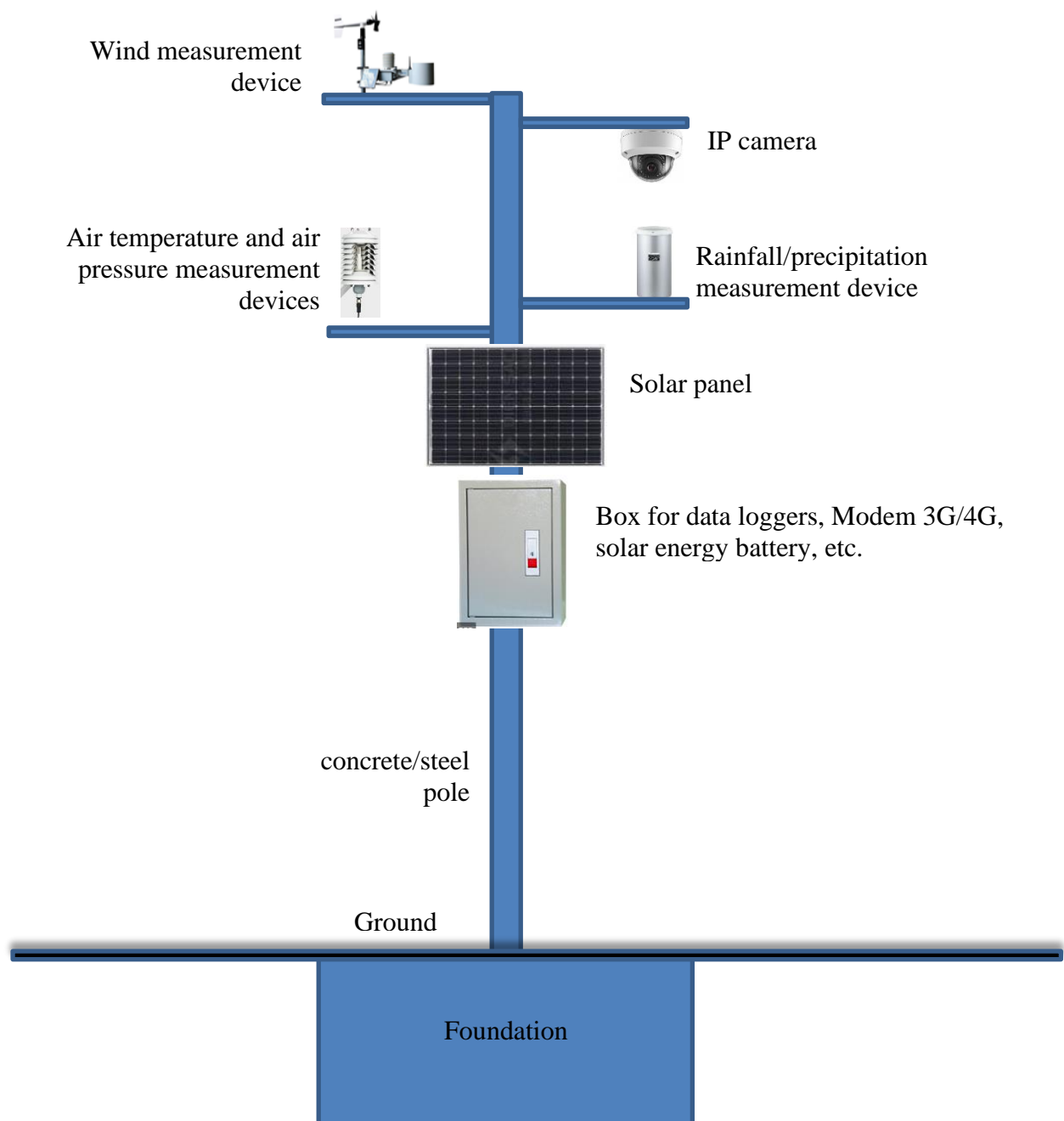


Diagram 3. Proposed installation and visual set-up of the devices⁶.

b) Specific hardware requirement of the system

1. **24 weather stations**, including data logger, 3G/4G modem for data transmission, are required to measure the following parameters: rainfall, wind direction, wind speed, air temperature and air pressure. The required technical parameters for the

⁶ This diagram is for illustration purposes only. For technical details, including height requirements, refer to Table 2.

measuring devices are provided in Table 2. All devices should have a minimum of 2-year warranty.

Table 2. Technical requirements for the measuring devices and other accessories

| No | Device | Technical parameters |
|----|-----------------|---|
| 1 | Wind | <p>Device measuring and storing data for (at least) every 2 seconds.</p> <p><i>a. Wind speed (WS)</i></p> <ul style="list-style-type: none"> - Unit: meter / second (m/s) - Range: (0, 80) m/s - Resolution: 0.5 m/s. - Accuracy (sensor uncertainty): ± 0.5 m/s for $WS \leq 5$ m/s; 10% for $WS > 5$ m/s. - Data transfer frequency: every 10 minutes <p><i>b. Wind direction</i></p> <ul style="list-style-type: none"> - Unit: $^{\circ}$ (degree). - Range: $(0, 360)^{\circ}$. - Resolution: 1°. - Accuracy (sensor uncertainty): $\pm 5^{\circ}$. - Data transfer frequency: every 10 minutes - Installation height for both devices: 10-12m - Equipment type (wind speed & direction): electromechanical or ultrasonic measuring devices |
| 2 | Air temperature | <ul style="list-style-type: none"> - Unit: $^{\circ}\text{C}$. - Range: -15°C, $+50^{\circ}\text{C}$. - Resolution: 0.1°C. - Accuracy (sensor uncertainty): $\pm 0.3^{\circ}\text{C}$ - Data transfer frequency: every 10 minutes. - Installation height: 1.5 - 2.0 m - Air temperature measurement device must be set up according to the requirements in Circular 30. |
| 3 | Air pressure | <ul style="list-style-type: none"> - Unit: Hectopascal (hPa). - Range: 810 to 1060 hPa - Resolution: 0.1 hPa. - Accuracy: ± 0.5 hPa. - Data transfer frequency: every 10 minutes. - Installation height: 1.5m or higher |
| 4 | Rainfall | <ul style="list-style-type: none"> - Unit: mm. - Rainfall Intensity: (0- 240) mm/hour. - Resolution: 0.2 mm. - Accuracy: ± 0.4 mm with rainfall ≤ 10 mm; 4 % with |

| | | |
|---|--|---|
| | | rainfall > 10 mm. - Data transfer frequency: every 10 minutes. - Installation height: 1.5m or higher |
| 5 | Data logger | - The data logger for each measurement device of wind, air temperature, air pressure, and rainfall either separate or all-in-one data logger; - Internet connectivity: GSM - GPRS, EDGE, HSDPA - Frequency: Multiband IP cellular - Memory: data storage for up to 3 months (integrated memory); - Data transmission frequency: Variable rate required. Must be able to report at 10 minute intervals. - Working temperature: -15 to 70°C; |
| 6 | Modem 3G/4G for data transmission | Minimum requirements: - Download speed 80Mbps - 150Mbps or more - Upload speed: 50Mbps or more |

2. **24 IP video cameras** providing real-time images of the situation on the ground, and at critical sea dyke locations combined with monitoring of ships in the above-mentioned communes; The technical requirements for IP camera are listed in Table 3.

Table 3. Technical requirements for IP video cameras

| No | Instrument | Technical parameters |
|----|------------|--|
| 1 | IP camera | - InfraRed camera - Resolution: 2.0 Megapixels or more. - Optical zoom 31x or more, digital zoom 16x or more. - Image compression standard: H.264 & MJPEG. - Supports light balance, back light compensation, autofocus, and Infrared Cut Filter Removal (ICR) function for day/night sensor. - Supports multiple access at the same time for 20 users or more. - Network Protocols: TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, DDNS, RTP, RTSP, RTCP, PPPoE, NTP, UPnP, SMTP, SNMP, IPv6 - 2-year warranty |

3. **Channel recorder device** to store all camera data from the stations: the proposed system⁷ should include capacity for storage and retention of 2 months (or more) of

⁷ The proposed minimal requirements include: 32 channel recorder to record data from cameras; to support IP Cameras of 2MP or more; 70TB ÷ 80TB HDD capacity or more; H.265+/H.265/H.264+/H.264/MPEG-4 Codecs

data from cameras, and should be extendable as required with 2-year warranty. The device will be located at DMPTC (VNDMA).

4. **24 Monitors** displaying all measurement information to help local communities in all 24 locations to easily access data and visual information. The consultancy firm is expected to develop/supply necessary software, which helps to convert technical/measurement data into simplified visuals/information/screen graphics⁸, which is easily understandable by non-technical people at sub-national and commune levels. The monitors will be connected to a signal/light system⁹, which remain green unless the measured value exceeds the threshold at which point the light turns red¹⁰. The signal/light system will cover 4 parameters: Rain, air temperature, air pressure and wind speed. The monitors will be connected with computers (24) for controlling and extracting information from the system as well as other sources. The monitors and computers (24 sets) will be set up at CPC offices. The technical requirements for the monitors and computers are provided in Table 4.

Table 4. Technical requirements for monitors and computers.

| No | Instrument | Suggested technical parameters ¹¹ |
|----|------------------|--|
| 1 | Monitor | <ul style="list-style-type: none"> - Screen options: Full HD/4K UHD/QLED/LCD - Size: Minimum 50 inches in diameter; - Multi-variable message sign; - Minimum resolution: 1680 × 1050 pixels; - Electricity input: 220V AC; - Connectivity: HDMI, USB, LAN, WIFI; - Remote control; - 2-year warranty. |
| 2 | Desktop Computer | <ul style="list-style-type: none"> - CPU: Intel Core i3-10100 (3.60GHz Up to 4.30GHz, 4 Cores 8 Threads, 6MB Cache) - RAM: 4GB (4Gx1) DDR4 2666MHz - Hard disk: 1TB 7200rpm - VGA: Intel® UHD Graphics 630 - Multimedia USB Keyboard - USB optical mouse - Monitor: LCD, 19", resolution 1600 x 900 @ 60Hz, D-Sub, HDMI |

⁸ Custom specifications will be discussed with VNDMA, UNDP and representatives at the provincial and local levels. The screen graphics may include trend graphs, covering different periods of time.

⁹ One proposed option here is to install two signal/lighting system, one inside for the operators of the EW system, and one outside for general public. The system inside can be slightly more sophisticated, while the one outside can be simple for the public:

- Inside: different signal/lighting systems covering the 4 different indicators;
- Outside: only one signal/lighting system with at least 3 different colors (like traffic light: green, yellow & red);

¹⁰ The proposed thresholds for signal/lighting system include the following:

- Rainfall: Rainfall density ≥ 7.6 mm/h, the light turns red;
- Wind speed: Wind speeds ≥ 17 m/s, the light turns red;
- Air temperature: Temperatures $\geq 39^{\circ}\text{C}$, or $\leq 4^{\circ}\text{C}$, the light turns red;

These proposed thresholds will be discussed in greater detail during implementation phase. The proposed thresholds should remain flexible to allow for appropriate adjustments given local conditions of each commune.

¹¹ These are the suggested technical parameters. Bids can include improved/enhanced versions of monitors and computers to better suit the compatibility or the requirements of the proposed EWS & equipment.

| No | Instrument | Suggested technical parameters ¹¹ |
|----|------------|--|
| | | - 2-year warranty |

5. **26 Monitors¹²** to be installed at the district and provincial levels (offices of People's Committees or other relevant offices) to allow district and provincial authorities to receive first-hand information from the system: total of 7 provinces & 19 districts (see Table 1).
6. **24 solar panels and batteries:** The consultancy firm has to select solar panels and relevant batteries to ensure that: 1) The power generated from the solar panels is enough for measuring devices of rainfall, wind direction, wind speed, air temperature, air pressure and other accessories; 2) The power stored in the battery is enough for the system to function autonomously for at least three days. Solar panels are proposed to be tilted on the correct angle (estimated range include 56 to 102 degrees) and should be facing south. Other options for energy generation are also acceptable, if they are cost effective, easy to maintain and provide better solution for autonomous energy generation for the stations.
7. **24 poles** should be made of concrete or steel with the height from 10m to 12m. The consultancy firm has to design pole and its basement/foundation to ensure that pole is vertical, fixed, sturdy and resistant to all wind levels. Other security measures should also be included in the design to prevent unauthorized access.

2. Requirements for software¹³

a) Develop a software to be housed in the existing DMPTC server to manage data, warning system and measurement information from stations with the following main features:

1. A location map of the weather stations.
2. An interface to display and manage the data storage to the DMPTC's server, allowing the following functions¹⁴:
 - Setting the number of automatic data retention and transmission times;
 - Storing data according to a certain time schedule; and
 - Scheduling stored data.

These settings should be built in an open and easily customizable manner.

3. Data query functions, allowing users to easily search and filter historical data according to certain parameters.

¹² Specification and warranty are similar to monitors described in #4 – “24 monitors” for communes.

¹³ See section 1.1.3 “Requirements for data transmission” for further details on the connection between the software and VNDMS.

¹⁴ The system will follow the established national and WMO recognized hydro-meteorological data collection and data management systems, which will allow management of the network and data, including integration with other systems.

4. Warning information from the actual measured data according to the set of standard thresholds defined and updated by responsible officers from VNDMA and DMPTC (the weather warning thresholds will be elaborated with VNDMA and local authorities, and will be based on national technical standards, including criteria of actual rainfall, cumulative rainfall, wind speed, and gust speed). All warning level and warning thresholds would be suitable with current level of VNDMS system;
5. Administrator capacity to send alarm messages in at least 2 different channels i.e., email and text/SMS¹⁵;
6. Generate warning information for localities and communities affected by natural disasters via alerts or text/SMS; Capacities of integrating the list of users at the affected points (or list of pre-defined recipients, whose emails and/or phone numbers will be entered in the system to be set up at VNDMA), in order to transmit information in the timely manner¹⁶;
7. Building API function to sharing data, information with VNDMS and other systems (according to the requirement of CCNDPC) in real-time or near real-time;
8. Capacities for sharing the hydro-meteorological data (wind, rainfall, air temperature and air pressure) of installed stations with specialized forecasting organizations;
9. An output data structure consistent with the VMHA's common monitoring database system of hydro-meteorological data and intractable with VNDMA data requirements (details of VNDMA data requirements will be discussed during implementation);
10. Design that is compatible with e-government architecture (shared service: user authentication service, etc.)¹⁷.

The consultancy firm will make 2 years warranty for the software and will share source codes with UNDP and VNDMA.

b) Development of a WEBGIS website¹⁸ to display real-time measured information and warnings in a visually appealing way. The WEBGIS needs to be simple, have a user-friendly design, easy to use, and should be compatible for PCs and internet browsers available on different platforms (Windows, MacOS, mobile phone operating systems – Android, iOS) . The basis map for WEBGIS using open-source data such as Google Earth, OpenStreetMap or other available open data sources that VNDMA can also provide during contract implementation, to consultancy firm, if available. This website should be linked and synchronized with VNDMS.

¹⁵ Additional features, such as texts through existing messaging mobile phone applications (i.e. Zalo) will also be considered.

¹⁶ The existing “off the shelf” tools available and applied for this type of functions (which can be built into the data collection system) is expected to be proposed by the consultancy firm.

¹⁷ Refer to information on E-government architecture framework model issued by Ministry of Information and Communications.

¹⁸ To be built or customized from existing product, which have proven their functionality in Viet Nam or other countries.

3. Requirements for data transmission

1. The measurement information at each of the 24 stations should be completely consistent and integratable with VNDMS as input for the existing data management and display software of the VNDMA.
2. The measured data at each of the 24 stations needs to be integrated into VNDMS as per the connection and operation diagram shown below in Diagram 4.

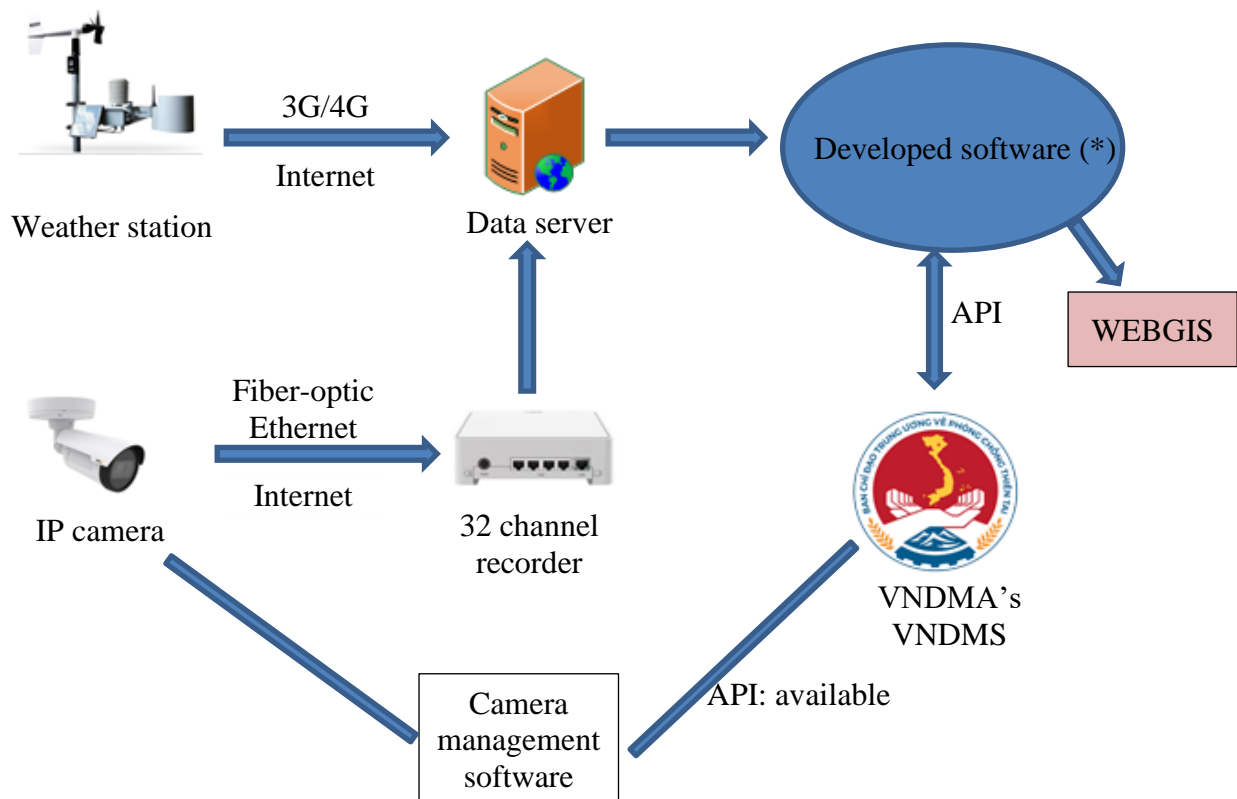


Diagram 4. Connection and operation of stations with VNDMS

3. The VNDMS system will receive data from the software (to be developed by the consultancy firm) through a standard API connection via LGSP framework of MARD. Monitoring data and the IP camera system from weather stations will be collected into site-processing unit and video feed will be sent for common display in the VNDMS video system using required video streaming protocol (RTSP). The Standing Office of the CCNDPC will use data from the VNDMS system (after integrating output data of the software) for disaster preparedness and during disaster response operations. The transmission bandwidth of the current VNDMA system varies between 80 -120 MB/s.

D. Preparation, Implementation, Training & Handover Phases

The phases and steps required to implement the assignment are proposed as follows:

1) Preparatory phase

- **Step 1:** Work with stakeholders (UNDP, VNDMA, supervision consultant team) to clarify the contents of the terms and conditions for the installation of the weather stations.
- **Step 2:** Coordinate with VNDMA to develop a detailed schedule with relevant departments and leaders in the provinces, districts and communes where the weather stations are expected to be installed¹⁹. Develop a survey plan with locations selected for the installation of weather stations.
- **Step 3:** Coordinate with UNDP, VNDMA, supervision consultants, and local authorities regarding the process of conducting the survey and selecting locations for the installation of weather stations and obtaining local land access and other relevant permissions. Obtain a consensus on potential installation locations.
- **Step 4:** Meet local authorities and community members to better understand their needs in terms of information requirements related to early warning for key hazards. This feedback should be used to inform software design and information outputs, as well as installation and training (under the implementation phase).
- **Step 5:** Develop a detailed survey report and implementation plan (and proposed software and its outputs) to submit to UNDP and VNDMA, for approval.
- **Step 6:** Develop a plan for procurement of the equipment and relevant materials for the installation and construction works:
 - + *Main equipment:* procure equipment for wind and rain monitoring stations, IP cameras, air temperature and air pressure sensors, data loggers, modems 3G/4G, 32-channel recorder device, monitors, computers, solar panels, batteries and related accessories.
 - + *Key materials for construction and installation:* 24 concrete/steel poles; fiber-optic cables, electricity lines from input internet or electricity points to station locations.
 - + *Other materials for construction and installation:* Bearing rope, AMP Cat6 line, tightening belt, electrical tape, and other auxiliary materials.
- **Step 7:** verify equipment according to Vietnamese standards before being

¹⁹ The consultancy firm has to work with local governments in order to identify the installation sites. Hence, VNDMA will support the consultancy firm on the relevant legal processes and documentation, and will accompany with consultancy firm where and when necessary.

deployed to the sites. The consultancy firm is required to obtain the origin certificates of equipment and stamp of Vietnamese equipment standardization and then obtain the agreement with UNDP.

2) Implementation phase

- **Step 1:** Clear site for construction. The consultancy firm is responsibility for site clearance²⁰.
- **Step 2:** Signing contracts with local electricity and internet suppliers and connecting electricity and internet to the system.
- **Step 3:** Verify ordered equipment against the approved list of equipment by UNDP and VNDMA before installation.
- **Step 4:** Deploy the construction and installation of pillars supporting the equipment.
- **Step 5:** Install monitoring stations and cameras. Connect electrical infrastructure and internet to the system.
- **Step 6:** Connect and test. Calibrate the equipment as per national standards.
- **Step 7:** Install software and conduct tests with local authorities, community members, UNDP and VNDMA.
- **Step 8:** Perform acceptance and handover. The document of acceptance and handover with contents related to the equipment quality and quantity will be reviewed and endorsed by UNDP.

3) Training and hand-over to local authorities and maintenance services

- **Step 1:** Organize 7 one-day training courses for each province on introduction and transfer of use (with estimated maximum participants of 30 persons from local SCFSP, CPC officers and local people for each training course). Cost for arranging these 7 training courses (venue, equipment, meal etc.) to be included in bidders' financial offer.
- **Step 2:** Organize 01 national technical workshop with VNDMA, UNDP and other stakeholders in Hanoi, with online participation of provinces, districts and communes where EWS has been installed. Total estimated number of in-person participants at the national level is 30 persons.
- **Step 3:** Develop a periodic inspection and maintenance plan (every 6 months and urgent situations). The plans should include estimates for human needs and

²⁰ Normally, the installation area for one station is smaller than 4 m²

funding. During the two-year warranty period of system, the consultancy firm has to implement maintenance and operation to ensure that the equipment is calibrated, and the system functions properly. This periodic inspection will include review and editing of the software based on feedback from communities, VNDMA and UNDP.

- **Step 4:** Hand over the periodic inspection and maintenance plan to the local authorities; and make a temporary acceptance document of completed work for implementation by authorities.

1.5 EXPECTED OUTPUTS/DELIVERABLES/PRODUCTS

- Overall Plan for the implementing of the assignment;
- Report on the detailed survey of station installation locations, overall design of the assignment, and the work of procurement and installation of the weather stations;
- Report on software development and testing accepted by UNDP and VNDMA²¹;
- User manual of the early warning system in both Vietnamese and English languages;
- Report on the training results, instructing local authorities and communities on system use;
- The periodic inspection and maintenance plan (every 6 months and when required); and
- Final report, including results for detailed survey of selected sites for the weather stations; procurement and installation of the weather stations; software development and testing; user manual for the system; training results, instructions for communities on system use; etc. (approved by the VNDMA and UNDP).

All the reports must be in both **Vietnamese and English** languages.

1.6 CONTRACT DURATION AND IMPLEMENTATION ARRANGEMENTS

Contract implementation duration

The contract implementation duration is from Q4/2021 to Q2/2022.

Contract implementation location

The implementation site is described in [Section 1.4, item A](#). “Station design and quantity requirements”.

1.7 TERMS OF PAYMENT

- The consultancy firm will be paid in phases as follows, after assignment products are approved by the VNDMA and UNDP.

²¹ The source code for the software will be made available to UNDP and VNDMA.

- The costs of the consultancy firm for performing the assignment under the TOR are subject to the UN-EU Guidelines for Financing of Local Costs in Development Cooperation with Viet Nam, Version 2017 (UN-EU cost norm 2017).

| Tentative products/deliverables by phases /Timeframe | Payment instalments |
|---|----------------------------|
| <i>Phase 1:</i> Implementation plan in English and Vietnamese of the assignment <ul style="list-style-type: none"> ○ 10 days after contract signed | 5% |
| <i>Phase 2:</i> <p>2.1 Report in English and Vietnamese on the detailed survey of selected sites, overall design of the procurement and installation of the weather stations (including the list of equipment with all brand names, full technical specifications and country of origin for UNDP and VNDMA's approval before placing order);</p> <ul style="list-style-type: none"> ○ One month after signing of contract. | 35% |
| <p>2.2 Report of completion of the installation of all equipment (including IP cameras);</p> <ul style="list-style-type: none"> ○ Three months after survey completed | 25% |
| <p>2.3:</p> <ul style="list-style-type: none"> • Report in English and Vietnamese on software development; • User manual in English and Vietnamese of early warning system; • Report in English and Vietnamese on the training results, instructing communities on system use; <ul style="list-style-type: none"> ○ Two months after completion of EWS installation | 25% |
| <i>Phase 3:</i> Completion report in English and Vietnamese (approved by VNDMA and UNDP) <ul style="list-style-type: none"> ○ Two and half months after completion of EWS installation <p>Upon receiving Performance Security from the bank of 10% contract value (using UNDP template - Form G) as security for contract's satisfactory compliance with two year guarantee obligations for the system.</p> | 10% |
| Total | 100% |

1.8 QUALIFICATION REQUIREMENTS

1.8.1. Capacity and experience of the consultancy firm

- The consultancy firm can be an independent firm or enter into a joint venture or consortium to meet the requirements of the bidding package (referred to as Consultancy Firm).
- Legal basis: the consultancy firm (lead firm in case of joint venture) should have all necessary (legal) permissions allowing it to provide this service under relevant laws of Viet Nam (Mandatory).
- The consultancy firm should have at least 5 years of experience in the field of hydro-meteorology and disaster risk management.
- The consultancy firm should have a team of experts to meet the requirements of the bidding package and implement a quality assurance process to monitor quality of products and services.
- The consultancy firm should display a commitment to ensure warranty of services, and support equipment maintenance during the system operation.
- Experiences in integration of DRM and other types of information with the VNDMS system of VNDMA will be an advantage.

1.8.2. Personnel requirements for the consultancy firm

The consultancy firm must have a team of key experts in the fields of:

- Disaster risk management, meteorology and hydrology.
- Hydro-meteorological monitoring technology and equipment;
- Development/application of disaster forecasting and early warning software;
- Conducting trainings at different levels, including national, sub-national and community levels;
- Building databases, sharing information and data, transmission of monitoring data, supervising monitoring information in real-time; and
- Designing and implementing early warning systems based on hydro-meteorological networks.

1.8.3. Key position requirements

| No | Position | Requirements |
|----|---|---|
| 1 | 01 National Team leader | <p>Qualification: Master's degree or higher, graduate in one of the aspects of hydro-meteorology, disaster risk management or other relevant majors.</p> <p>Good knowledge about weather forecasting and warning systems, management of hydro-meteorological systems.</p> <p>Experience:</p> <ul style="list-style-type: none"> - At least 10 years of experience working in the fields of hydro-meteorology and/or disaster risk management, and experience in implementing at least 1 similar project. - Proven experience to work with English language. - Proven experience in providing training courses on hydro-meteorology, disaster risk management for technical staff and at community level. |
| 2 | 01 National Information Technology Expert | <p>Qualification: Master's degree or higher, majoring in IT or related fields.</p> <p>Good knowledge about information technology, ability to apply knowledge of IT to build databases and information management systems, with focus on meteorology and hydrology.</p> <p>Experience:</p> <ul style="list-style-type: none"> - At least 5 years of work experience in Information Technology. - Experience in at least 1 similar project on database development - Experience in at least 1 project/contract on similar software development. |
| 3 | 01 National Hydro-Met Monitoring & Forecasting Expert | <p>Qualification: Master's degree or higher in meteorology or hydro-meteorology.</p> <p>Experience:</p> <ul style="list-style-type: none"> - At least 10 years of work experience in hydro-meteorological monitoring/forecasting. - Professional record in hydro-meteorological forecast/monitoring projects. - Experience in similar projects in Viet Nam is an advantage. |
| 4 | 01 National Electronics & Telecommunications Expert | <p>Qualification: Engineering/Bachelor's degree or higher in ICT, electronics and telecommunications, or similar fields.</p> <p>Experience: At least 5 years of working experience in electronics and telecommunications and recent experience in similar projects</p> |

| No | Position | Requirements |
|--|-----------------------------|---|
| | | in Viet Nam. |
| 5 | 01 National Training Expert | Qualifications: Master's degree or higher in the fields related to meteorology, hydrology, and/or disaster risk management. Experience: At least 8 years of experience in capacity building in at least 3 related similar projects |
| Minimum number for key experts expected: 05 | | |

I.9 EVALUATION CRITERIA

The following criteria will be required for the firm to undertake the assignment:

| Form 1: Overall firm competencies²² | | Max. Points | What to submit |
|---|--|--------------------|--|
| 1.1 | <p>The consultancy firm should have at least 5 years of experience in the fields related to hydro-meteorology and/or disaster risk management.</p> <ul style="list-style-type: none"> - 5 years of experience: 60 points - For additional years: 10 points/year (to the maximum of 20 points) - Below 5 years: 0 point | 80 | Business license + company profile |
| 1.2 | <p>Track record of relevant experience in implementation of at least 2 similar projects on installation of hydro-meteorological systems/equipment, software development and transfer of technology:</p> <ul style="list-style-type: none"> - 2 similar projects: 130 points - For additional projects: 10 points/project (to the maximum 20 points) - Below 2 similar projects: 0 point | 150 | List of similar contracts with contract value, names of clients, and explanatory notes/sections describing the nature of projects and deliverables |
| 1.3 | Experience in implementing VNDMA's projects related to the application of information technology (including software development) with good performance. | 20 | Contracts and service performance assessment from clients |
| Total Form 1 | | 250 | |

| Form 2- Proposed Methodology, Approach and Implementation Plan | | Points | What to submit |
|---|---|---------------|---|
| 2.1 | Extent to which the bidder understands the tasks and expected deliverables of the ToR. | 50 | Assessed against the overall technical design of the proposal |
| 2.2 | The suggested work plan sufficiently addresses the tasks/responsibilities expressed in the ToR. | 100 | Workplan |

²² The following evaluation principle will be applied for the 3 criteria under Form 1: for 1.1 only one of the joint venture/consortium members with the highest qualification will be assessed; for 1.2 and 1.3 all joint venture/consortium members will be assessed.

| Form 2- Proposed Methodology, Approach and Implementation Plan | | Points | What to submit |
|---|--|---------------|--|
| 2.3 | The suggested technical design of the system, proposed software and training methodology is sufficient and appropriate to address the requirements of the ToR. | 150 | Technical design + training methodology |
| 2.4 | Proposal includes a separate section focusing on proposed solutions to ensure that the operation of the system will be stable with minimal or no interruption either during emergency situations or other technical/functional problems which may affect the equipment, system, signal transmission, etc. This section may also provide additional information on the type of software that will be proposed to be installed, which would help translate technical data from measurement units into simplified information at the commune, district and provincial levels. Examples of similar works done in Vietnam, or other countries, can be included. | 100 | Additional section describing the details of the proposed solutions (to be included in the proposal) |
| Total Form 2 | | 400 | |

| Form 3- Team Composition | | Points | What to submit |
|---------------------------------|--|---------------|-----------------------|
| 3.1 | National Team Leader: | 100 | CV |
| 3.1.1 | <p>Master's degree or higher, graduate in one of the aspects of hydro-meteorology, disaster risk management or other relevant majors.</p> <ul style="list-style-type: none"> - Master's degree: 22 points - Higher Degree: 30 points - Lower degree: 0 point | 30 | Certificate |
| 3.1.2 | <p>At least 10 years of experience working in the fields related to hydro-meteorology and/or disaster risk management</p> <ul style="list-style-type: none"> - 10 years experience: 22 points - For each additional year of experience: 4 points (to the max of 8 points) - Less than 10 years: 0 point | 30 | CV |

| Form 3- Team Composition | | Points | What to submit |
|---------------------------------|--|---------------|--|
| 3.1.3 | Experience in implementation of at least 1 similar project as Team Leader on hydro-meteorology and/or disaster risk management. <ul style="list-style-type: none"> - More than one similar project: 20 points - 1 project: 14 points | 20 | Similar contract |
| 3.1.4 | Proven experience to work with English language | 10 | 2 reports in English/ contracts to work with international organizations/ English certificates |
| 3.1.5 | Proven experience in providing training courses on hydro-meteorology, disaster risk management for technical staff and at community level. | 10 | CV |
| 3.2 | National Information Technology Expert | 70 | CV |
| 3.2.1 | Master's degree or higher, majoring in IT or related fields. <ul style="list-style-type: none"> - Master's degree: 15 points - Higher degree: 20 points | 20 | Certificate |
| 3.2.2 | At least 5 years of work experience in Information Technology <ul style="list-style-type: none"> - 5 years experience: 22 points - For each additional year of experience: 4 points (to the max of 8 points) - Less than 5 years: 0 point | 30 | CV |
| 3.2.3 | Experience in at least 1 similar project on database development <ul style="list-style-type: none"> - One similar project: 7 points - More than 1 project: 10 points | 10 | CV |

| Form 3- Team Composition | | Points | What to submit |
|---------------------------------|---|---------------|-----------------------|
| 3.2.4 | Experience in at least 1 project/contract on similar software development. <ul style="list-style-type: none"> - One similar project: 7 points - More than 1 project: 10 points | 10 | CV |
| 3.3 | National Hydro-Met Monitoring & Forecasting Expert | 70 | CV |
| 3.3.1 | Master's degree or higher in meteorology and hydrology <ul style="list-style-type: none"> - Master's degree: 15 points - Higher degree: 20 points | 20 | certificate |
| 3.3.2 | At least 10 years of work experience in hydro-meteorological monitoring/forecasting <ul style="list-style-type: none"> - 10 years of experience: 30 points - For each additional year of experience: 5 points (to the max of 10 points) - Less than 10 years: 0 point | 40 | CV |
| 3.3.3 | Experience in similar projects. | 10 | |
| 3.4 | National Electronics & Telecommunications Expert | 40 | CV |
| 3.4.1 | Engineer/Bachelors degree or higher in ICT, electronics and telecommunications. <ul style="list-style-type: none"> - Engineer/Bachelor Degree: 7 points - Higher Degree: 10 points | 10 | certificate |
| 3.4.2 | At least 5 years of working experience as electronics – telecommunications expert <ul style="list-style-type: none"> - 5 years of experience: 14 points - For each additional year of experience: 3 points (to the max of 6 points) - Less than 5 years of experience: 0 point | 20 | CV |
| 3.4.3 | Experience related to implementation of similar projects. | 10 | CV |
| 3.5 | National Training Expert | 70 | CV |

| Form 3- Team Composition | | Points | What to submit |
|---------------------------------|--|---------------|-----------------------|
| 3.5.1 | Master's degree or higher in the fields of meteorology, hydrology, and/or disaster risk management. <ul style="list-style-type: none"> - Master's degree: 15 points - Higher degree: 20 points - Lower degree: 0 point | 20 | Certificate |
| 3.5.2 | At least 8 years of experience in training. <ul style="list-style-type: none"> - 8 years of experience: 22 points - For each additional year of experience: 4 points (to the max of 8 points) - Less than 8 years of experience: 0 points | 30 | CV |
| 3.5.3 | Working experience in at least 3 similar projects <ul style="list-style-type: none"> - 3 similar projects: 15 points - More than 3 projects: 20 points - Less than 3 projects: 0 point | 20 | CV |
| Total Form 3 | | 350 | |
| TOTAL | | 1,000 | |

1.10 PROVISION OF MONITORING AND PROGRESS CONTROLS

Project documents (including relevant reports) will be provided to the consultancy firm at the beginning of the assignment.

UNDP and VNDMA will support the consultancy firm to arrange the schedule with related government agencies when going on field trip.

UNDP will send a supervisory consultancy team to join the fieldwork with the implementation consultancy firm for developing detailed survey report.

During implementation, UNDP will send a supervisory consultancy team to assess the implementation progress, including: 1) Ensuring the purchase of the appropriate type and quality of the equipment, in line with the specifications provided in the ToR; 2) Ensuring that the appropriate processes are followed during the implementation of the contract, as described in the ToR and proposal of the consultancy firm; and 2) Ensuring the quality of construction and installation of equipment at the appropriate locations, in accordance with technical safety and standards supporting stable and long-term operation. Equipment purchased and installed need to have approval of the supervisory consultancy team for liquidation procedure.

LIST OF TABLES
(provided in the TOR above)

Table 1. List of weather stations in 7 provinces

Table 2. Technical requirements for the measuring devices and other accessories

Table 3. Technical requirements for IP video cameras

Table 4. Technical requirements for monitors and computers

LIST OF DIAGRAMS
(provided in the TOR above)

- Diagram 1. Monitoring station connection diagram.
- Diagram 2. Monitoring IP camera connection diagram.
- Diagram 3. Proposed design of the stations.
- Diagram 4. Connection and operation of stations with VNDMS

APPENDIX 1- LIST OF ACRONYMS

| | |
|---------|---|
| CBDRM | Community-Based Disaster Risk Management |
| CCNDPC | Central Committee of Natural Disaster Prevention and Control |
| CNDPCSR | Committee of Natural Disaster Prevention and Control, Search and Rescue |
| CPMU | Central Project Management Unit |
| DMPTC | Disaster Management Policy and Technology Center |
| EWS | Early Warning System |
| GCF | Green Climate Fund |
| GoV | Government of Viet Nam |
| LGSP | Local Government Service Platform |
| MARD | Ministry of Agriculture and Rural Development |
| MoC | Ministry of Construction |
| NSCNDPC | National Steering Committee for Natural Disaster Prevention and Control |
| TOR | Terms of Reference |
| UNDP | United Nations Development Programme |
| VMHA | Vietnam Meteorological and Hydrological Administration |
| VNDMA | Vietnam Disaster Management Authority |
| VNDMS | Vietnam Disaster Management System |

APPENDIX 2 - Required Data Format Parameters

| No | Data | Group | Data type | DATA FORMAT | | | | | <i>Products provided (minimum requirements)</i> | Note |
|----|-----------------|----------------|-----------|-----------------------------|--------------------|------------------|--------------------------------|-----------------------------|--|------------------------|
| | | | | <i>Unit</i> | <i>Data format</i> | <i>Protocol</i> | <i>Data transfer frequency</i> | <i>Data transition mode</i> | | |
| 1 | Rainfall | | Decimal | mm | CSV | FTP, HTTP, HTTPS | Every 10 minutes | FTP server or RESTful API | CSV table composed of: Station name, station code, monitoring data | Measured automatically |
| 2 | Wind | Wind speed | Decimal | m/s | | FTP, HTTP, HTTPS | Every 10 minutes | FTP server or RESTful API | CSV table composed of: Station name, station code, monitoring data | Measured automatically |
| | | Wind direction | Character | Degree or compass direction | | FTP, HTTP, HTTPS | Every 10 minutes | FTP server or RESTful API | | Measured automatically |
| 3 | Air temperature | | Decimal | °C | | FTP, HTTP, HTTPS | Every 10 minutes | FTP server or RESTful API | | Measured automatically |
| 4 | Air pressure | | Decimal | hPa | | FTP, HTTP, HTTPS | Every 10 minutes | FTP server or RESTful API | CSV table composed of: Station name, station code, monitoring data | Measured automatically |

APPENDIX 3 – Reference documents for bidders

1. [Law on Hydrometeorology of Viet Nam.](#)
2. [Circular No. 30/2018/TT-BTNMT dated 26 December 2018 of MONRE](#)
3. Information on E-government architecture framework model issued by the Ministry of Information and Communications.
4. [WMO - No.8. Guide to Meteorological Instruments and Methods of Observation](#)

SECTION 6: RETURNABLE BIDDING FORMS / CHECKLIST

This form serves as a checklist for preparation of your Bid. Please complete the Returnable Bidding Forms in accordance with the instructions in the forms and return them as part of your Bid submission. No alteration to format of forms shall be permitted and no substitution shall be accepted.

Before submitting your Bid, please ensure compliance with the Bid Submission instructions of the BDS 22.

Technical Bid:

| Have you duly completed all the Returnable Bidding Forms? | |
|---|--------------------------|
| ▪ Form A: Bid Submission Form | <input type="checkbox"/> |
| ▪ Form B: Bidder Information Form | <input type="checkbox"/> |
| ▪ Form C: Joint Venture/Consortium/ Association Information Form | <input type="checkbox"/> |
| ▪ Form D: Qualification Form | <input type="checkbox"/> |
| ▪ Form E: Format of Technical Bid | <input type="checkbox"/> |
| ▪ <u>List of all offered equipment with detail specifications and warranty period without price</u> | <input type="checkbox"/> |
| ▪ All required documents indicated in section I.9. Evaluation criteria of the TOR | <input type="checkbox"/> |

Price Schedule:

| | |
|---|--------------------------|
| ▪ Form F: Price Schedule Form signed and stamped in PDF | <input type="checkbox"/> |
| ▪ Form F: Price Schedule for in excel sheet | <input type="checkbox"/> |

Form A: Bid Submission Form

| | | | |
|-----------------|-------------------------------|-------|-------------|
| Name of Bidder: | [Insert Name of Bidder] | Date: | Select date |
| ITB reference: | [Insert ITB Reference Number] | | |

We, the undersigned, offer to supply the goods and related services required for [Insert Title of goods and services] in accordance with your Invitation to Bid No. [Insert ITB Reference Number] and our Bid. We hereby submit our Bid, which includes this Technical Bid and Price Schedule.

Our attached Price Schedule is for the sum of [Insert amount in words and figures and indicate currency].

We hereby declare that our firm, its affiliates or subsidiaries or employees, including any JV/Consortium /Association members or subcontractors or suppliers for any part of the contract:

- a) is not under procurement prohibition by the United Nations, including but not limited to prohibitions derived from the Compendium of United Nations Security Council Sanctions Lists;
- b) have not been suspended, debarred, sanctioned or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization;
- c) have no conflict of interest in accordance with Instruction to Bidders Clause 4;
- d) do not employ, or anticipate employing, any person(s) who is, or has been a UN staff member within the last year, if said UN staff member has or had prior professional dealings with our firm in his/her capacity as UN staff member within the last three years of service with the UN (in accordance with UN post-employment restrictions published in ST/SGB/2006/15);
- e) have not declared bankruptcy, are not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against them that could impair their operations in the foreseeable future;
- f) undertake not to engage in proscribed practices, including but not limited to corruption, fraud, coercion, collusion, obstruction, or any other unethical practice, with the UN or any other party, and to conduct business in a manner that averts any financial, operational, reputational or other undue risk to the UN and we embrace the principles of the United Nations Supplier Code of Conduct and adhere to the principles of the United Nations Global Compact.

We declare that all the information and statements made in this Bid are true and we accept that any misinterpretation or misrepresentation contained in this Bid may lead to our disqualification and/or sanctioning by the UNDP.

We offer to supply the goods and related services in conformity with the Bidding documents, including the UNDP General Conditions of Contract and in accordance with the Schedule of Requirements and Technical Specifications.

Our Bid shall be valid and remain binding upon us for the period specified in the Bid Data Sheet.

We understand and recognize that you are not bound to accept any Bid you receive.

I, the undersigned, certify that I am duly authorized by [Insert Name of Bidder] to sign this Bid and bind it should UNDP accept this Bid.

Name: _____

Title: _____

Date: _____

Signature: _____

[Stamp with official stamp of the Bidder]

Form B: Bidder Information Form

| | |
|--|---|
| Legal name of Bidder | [Complete] |
| Legal address | [Complete] |
| Year of registration | [Complete] |
| Bidder's Authorized Representative Information | Name and Title: [Complete] Telephone numbers: [Complete] Email: [Complete] |
| Are you a UNGM registered vendor? | <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, [insert UGNM vendor number] |
| Are you a UNDP vendor? | <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, [insert UNDP vendor number] |
| Countries of operation | [Complete] |
| No. of full-time employees | [Complete] |
| Quality Assurance Certification (e.g. ISO 9000 or Equivalent) <i>(If yes, provide a Copy of the valid Certificate):</i> | [Complete] |
| Does your Company hold any accreditation such as ISO 14001 or ISO 14064 or equivalent related to the environment? <i>(If yes, provide a Copy of the valid Certificate):</i> | [Complete] |
| Does your Company have a written Statement of its Environmental Policy? <i>(If yes, provide a Copy)</i> | [Complete] |
| Does your organization demonstrates significant commitment to sustainability through some other means, for example internal company policy documents on women empowerment, renewable energies or membership of trade institutions promoting such issues | [Complete] |
| Is your company a member of the UN Global Compact | [Complete] |
| Contact person that UNDP may contact for requests for | Name and Title: [Complete] Telephone numbers: [Complete] |

| | |
|---|--|
| clarifications during Bid evaluation | Email: [Complete] |
| Please attach the following documents: | <ul style="list-style-type: none"> ▪ Company Profile, which should <u>not</u> exceed fifteen (15) pages, including printed brochures and product catalogues relevant to the goods and/or services being procured ▪ Certificate of Incorporation/ Business Registration ▪ Tax Registration/Payment Certificate issued by the Internal Revenue Authority evidencing that the Bidder is updated with its tax payment obligations, or Certificate of Tax exemption, if any such privilege is enjoyed by the Bidder ▪ Trade name registration papers, if applicable ▪ Quality Certificate (e.g., ISO, etc.) and/or other similar certificates, accreditations, awards and citations received by the Bidder, if any ▪ Environmental Compliance Certificates, Accreditations, Markings/Labels, and other evidences of the Bidder's practices which contributes to the ecological sustainability and reduction of adverse environmental impact (e.g., use of non-toxic substances, recycled raw materials, energy-efficient equipment, reduced carbon emission, etc.), either in its business practices or in the goods it manufactures ▪ Patent Registration Certificates, if any of technologies submitted in the Bid is patented by the Bidder ▪ Certification or authorization to act as Agent on behalf of the Manufacturer, or Power of Attorney. ▪ Export Licenses, if applicable ▪ Local Government permit to locate and operate in assignment location, if applicable ▪ Official Letter of Appointment as local representative, if Bidder is submitting a Bid on behalf of an entity located outside the country |

Form C: Joint Venture/Consortium/Association Information Form

| | | | |
|-----------------|-------------------------------|-------|-------------|
| Name of Bidder: | [Insert Name of Bidder] | Date: | Select date |
| ITB reference: | [Insert ITB Reference Number] | | |

To be completed and returned with your Bid if the Bid is submitted as a Joint Venture/Consortium/Association.

| No | Name of Partner and contact information <i>(address, telephone numbers, fax numbers, e-mail address)</i> | Proposed proportion of responsibilities (in %) and type of goods and/or services to be performed |
|----|--|--|
| 1 | [Complete] | [Complete] |
| 2 | [Complete] | [Complete] |
| 3 | [Complete] | [Complete] |

| | |
|--|------------|
| Name of leading partner (with authority to bind the JV, Consortium, Association during the ITB process and, in the event a Contract is awarded, during contract execution) | [Complete] |
|--|------------|

We have attached a copy of the below referenced document signed by every partner, which details the likely legal structure of and the confirmation of joint and severable liability of the members of the said joint venture:

☐ Letter of intent to form a joint venture
 OR
☐ JV/Consortium/Association agreement

We hereby confirm that if the contract is awarded, all parties of the Joint Venture/Consortium/Association shall be jointly and severally liable to UNDP for the fulfillment of the provisions of the Contract.

Name of partner: _____ Name of partner: _____

Signature: _____ Signature: _____

Date: _____ Date: _____

Name of partner: _____ Name of partner: _____

Signature: _____ Signature: _____

Date: _____ Date: _____

Form D: Eligibility and Qualification Form

| | | | |
|-----------------|-------------------------------|-------|-------------|
| Name of Bidder: | [Insert Name of Bidder] | Date: | Select date |
| ITB reference: | [Insert ITB Reference Number] | | |

If JV/Consortium/Association, to be completed by each partner.

History of Non- Performing Contracts

| <input type="checkbox"/> Non-performing contracts did not occur during the last 3 years | | | |
|---|------------------------------------|---|---|
| <input type="checkbox"/> Contract(s) not performed in the last 3 years | | | |
| Year | Non- performed portion of contract | Contract Identification | Total Contract Amount (current value in US\$) |
| | | Name of Client: Address of Client: Reason(s) for non-performance: | |

Litigation History (including pending litigation)

| <input type="checkbox"/> No litigation history for the last 3 years | | | |
|---|-----------------------------|---|---|
| <input type="checkbox"/> Litigation History as indicated below | | | |
| Year of dispute | Amount in dispute (in US\$) | Contract Identification | Total Contract Amount (current value in US\$) |
| | | Name of Client: Address of Client: Matter in dispute: Party who initiated the dispute: Status of dispute: Party awarded if resolved: | |

Previous Relevant Experience

Please list only previous similar assignments successfully completed in the last 5 years.

List only those assignments for which the Bidder was legally contracted or sub-contracted by the Client as a company or was one of the Consortium/JV partners. Assignments completed by the Bidder's individual experts working privately or through other firms cannot be claimed as the relevant experience of the Bidder, or that of the Bidder's partners or sub-consultants, but can be claimed by the Experts themselves in their CVs. The Bidder should be prepared to substantiate the claimed experience by presenting copies of relevant documents and references if so requested by UNDP.

| Project name & Country of Assignment | Client & Reference Contact Details | Contract Value | Period of activity and status | Types of activities undertaken |
|--------------------------------------|------------------------------------|----------------|-------------------------------|--------------------------------|
| | | | | |
| | | | | |
| | | | | |

Bidders may also attach their own Project Data Sheets with more details for assignments above.

Financial Standing

| | | |
|---|------|-----|
| Annual Turnover for the last 3 years (Mandatory) | Year | USD |
| | Year | USD |
| | Year | USD |
| Latest Credit Rating (if any), indicate the source | | |

| Financial information (in US\$ equivalent) | Historic information for the last 3 years | | |
|---|---|--------|--------|
| | Year 1 | Year 2 | Year 3 |
| | <i>Information from Balance Sheet</i> | | |
| Total Assets (TA) | | | |
| Total Liabilities (TL) | | | |
| Current Assets (CA) | | | |
| Current Liabilities (CL) | | | |
| | <i>Information from Income Statement</i> | | |
| Total / Gross Revenue (TR) | | | |
| Profits Before Taxes (PBT) | | | |
| Net Profit | | | |
| Current Ratio | | | |

☐ Attached are copies of the audited financial statements (balance sheets, including all related notes, and income statements) for the years required above complying with the following condition:

- Must reflect the financial situation of the Bidder or party to a JV, and not sister or parent companies;
- Historic financial statements must be audited by a certified public accountant;
- Historic financial statements must correspond to accounting periods already completed and audited. No statements for partial periods shall be accepted.

Form E: Format of Technical Bid

| | | | |
|-----------------|-------------------------------|-------|-------------|
| Name of Bidder: | [Insert Name of Bidder] | Date: | Select date |
| ITB reference: | [Insert ITB Reference Number] | | |

The Bidder's Bid should be organized to follow this format of the Technical Bid. Where the bidder is presented with a requirement or asked to use a specific approach, the bidder must not only state its acceptance, but also describe how it intends to comply with the requirements. Where a descriptive response is requested, failure to provide the same will be viewed as non-responsive.

SECTION 1: Bidder's qualification, capacity and expertise

- 1.1 General organizational capability which is likely to affect implementation: management structure, financial stability and project financing capacity, project management controls, extent to which any work would be subcontracted (if so, provide details).
- 1.2 Relevance of specialized knowledge and experience on similar engagements/contracts
- 1.3 Quality assurance procedures and risk mitigation measures.

(see required documents in form 1. Overall firm competencies under section [1.9. Evaluation Criteria of the TOR](#))

SECTION 2: Scope of Supply, Technical Specifications, and Related Services

This section should demonstrate the Bidder's responsiveness to the specification by identifying the specific components proposed, addressing the requirements, as specified, point by point; providing a detailed description of the essential performance characteristics proposed; and demonstrating how the proposed bid meets or exceeds the requirements/specifications. All important aspects should be addressed in sufficient detail.

- 2.1 Provide list of required goods with detailed specifications, warranty and Quantity without price
- 2.2 A detailed description of how the Bidder will deliver the required goods and services, keeping in mind the appropriateness to local conditions and project environment. Details how the different service elements shall be organized, controlled and delivered.
- 2.3 Explain whether any work would be subcontracted, to whom, how much percentage of the requirements, the rationale for such, and the roles of the proposed sub-contractors and how everyone will function as a team.
- 2.4 Explaining bidders' understanding the tasks and expected deliverables/outcomes of the TOR;
- 2.5 Providing methodology and approach to address the needs/demands of the TOR
- 2.6 Implementation plan including a Gantt Chart or Project Schedule indicating the detailed sequence of activities that will be undertaken and their corresponding timing.
- 2.7 Providing response to the requirements in the below table:

| Goods to be Supplied and Technical Specifications | Compliance with technical specifications in the TOR | |
|--|---|--|
| | Yes, we comply | No, we cannot comply (indicate discrepancies) |
| HARDWARE | | |
| Device for measuring wind | | |
| Device for measuring air temperature | | |
| Device for measuring rainfall | | |
| Device for air pressure | | |
| Data logger | | |
| Modem 3G/4G | | |
| IP camera | | |
| Channel recorder device | | |
| Monitor (50 inches in diameter) and remote control | | |
| Desktop Computer (including of LCD monitor 19", mouse and keyboard) | | |
| Solar panels and batteries | | |
| MATERIALS | | |
| concrete/steel poles; fiber-optic cables, electricity lines from input internet or electricity points to station locations | | |
| Fiber-optic cable (2 FO, 2 cores) | | |
| Bearing rope, AMP Cat6 line, tightening belt, electrical tape, and other auxiliary materials | | |

| Other Related services and requirements <i>(based on the information provided in Section 1.4 of the TOR)</i> | Compliance with requirements | | Details or comments on the related requirements |
|---|------------------------------|--|---|
| | Yes, we comply | No, we cannot comply (indicate discrepancies) | |
| Software development | | | |
| Survey | | | |
| Setting up system | | | |
| Services and maintenance | | | |
| Investigation | | | |
| Implementation | | | |
| Training | | | |
| Warranty: 2 years | | | |
| Local Service Support | | | |

(see required documents in form 2. Proposed Methodology, Approach and Implementation Plan under section [I.9. Evaluation Criteria](#) of the TOR)

SECTION 3: Management Structure and Key Personnel

- 3.1 Describe the overall management approach toward planning and implementing the project. Include an organization chart for the management of the project describing the relationship of key positions and designations. Provide a spreadsheet to show the activities of each personnel and the time allocated for his/her involvement.
- 3.2 Provide CVs for key personnel that will be provided to support the implementation of this project using the format below. CVs should demonstrate qualifications in areas relevant to the scope of goods and/or services.

(see required documents in form 3: Team composition under section [I.9. Evaluation Criteria](#) of the TOR)

Format for CV of Proposed Key Personnel

| | |
|-------------------------------------|---|
| Name of Personnel | [Insert] |
| Position for this assignment | [Insert] |
| Nationality | [Insert] |
| Language proficiency | [Insert] |
| Education/Qualifications | <i>[Summarize college/university and other specialized education of personnel member, giving names of schools, dates attended, and degrees/qualifications obtained.]</i> [Insert] |
| Professional certifications | <i>[Provide details of professional certifications relevant to the scope of goods and/or services]</i> ■ Name of institution: [Insert] ■ Date of certification: [Insert] |
| Employment Record/Experience | <i>[List all positions held by personnel (starting with present position, list in reverse order), giving dates, names of employing organization, title of position held and location of employment. For experience in last five years, detail the type of activities performed, degree of responsibilities, location of assignments and any other information or professional experience considered pertinent for this assignment.]</i> [Insert] |
| References | <i>[Provide names, addresses, phone and email contact information for two (2) references]</i> Reference 1: [Insert] Reference 2: [Insert] |

I, the undersigned, certify that to the best of my knowledge and belief, the data provided above correctly describes my qualifications, my experiences, and other relevant information about myself.

Signature of Personnel

Date (Day/Month/Year)

FORM F: Price Schedule Form

| | | | |
|-----------------|-------------------------------|-------|-------------|
| Name of Bidder: | [Insert Name of Bidder] | Date: | Select date |
| ITB reference: | [Insert ITB Reference Number] | | |

The Bidder is required to prepare the Price Schedule following the below format. The Price Schedule must include a detailed cost breakdown of all goods and related services to be provided. Separate figures must be provided for each functional grouping or category, if any.

Any estimates for cost-reimbursable items, such as travel of experts and out-of-pocket expenses, should be listed separately.

Currency of the Bid: USD

Price Schedule

| Item # | Description | UOM | Quantity | Unit Price | Total Price |
|-----------|--|-----|----------|------------|-------------|
| I | Travelling expenses²³for investigation; implementation; trainings, acceptance and transfer | | | | |
| | <i>Investigation</i> | | | | |
| | Travel | | | | |
| | Per-diem | | | | |
| | <i>Implementation</i> | | | | |
| | Travel | | | | |
| | Per-diem | | | | |
| | <i>Trainings, acceptance and transfer</i> | | | | |
| | Travel | | | | |
| | Per-diem | | | | |
| II | Equipment and material expenses | | | | |

²³ UN-EU Guidelines for Financing of local costs in development co-operation with Vietnam should be used (UN-EU cost norm) should be used for travel-related costs, consultancy fee.

| | | | | | |
|------------|---|----------|-------|--|--|
| | <i>Equipment</i> | | | | |
| | Device for measuring wind | Item | 24 | | |
| | Device for measuring air temperature | Item | 24 | | |
| | Device for measuring rainfall | Item | 24 | | |
| | Device for air pressure | Item | 24 | | |
| | IP camera | Item | 24 | | |
| | Data logger | Item | 96 | | |
| | 32 Channel recorder devices | Item | 1 | | |
| | Monitor (50 inches in diameter) and remote control | Item | 50 | | |
| | Desktop Computer (including of LCD monitor 19", mouse and keyboard) | Pack age | 24 | | |
| | Solar panels and batteries | Item | 24 | | |
| | Modem 3G/4G | Item | 96 | | |
| | <i>Materials</i> | | | | |
| | Concrete/steel pole (sturdy, resistant to all wind levels; height from 10m to 12m) | Item | 24 | | |
| | Fiber-optic cable (2 FO, 2 cores) | m | 2,400 | | |
| | Electricity line (Wrapping wire: PVC; Nominal voltage: 0.6/1kV; Cover depth: 0.8/0.8mm; Core material: Cu 100%) | m | 2,400 | | |
| | Others (if required) please specify..... | | | | |
| III | Expenses for software development and 2 years warranty | | | | |
| | | | | | |

| | | | | | |
|--------------------|--|--|--|--|--|
| | | | | | |
| IV | Expenses for setting up system | | | | |
| | | | | | |
| V | Expenses for 7 trainings and 01 national technical workshop | | | | |
| | | | | | |
| VI | Expenses for inspection and maintenance during two years warranty | | | | |
| | | | | | |
| VII | Expenses of acceptance and transfer meetings | | | | |
| | | | | | |
| VIII | Other known costs | | | | |
| | site clearance | | | | |
| | Electricity supply for two years warranty | | | | |
| | Internet fee for two years warranty | | | | |
| | Fee for getting permit to connect the power supply | | | | |
| IX | Other expenses (please list out) | | | | |
| | | | | | |
| | VAT | | | | |
| GRAND TOTAL | | | | | |

Name of Bidder: _____

Authorised signature and stamp: _____

Name of authorised signatory: _____

Functional Title: _____

[insert: address and email address]

FORM G: PERFORMANCE SECURITY

INSERT LETTERHEAD OF THE BANK

[date]

To: Beneficiary
United Nations Development Programme (UNDP)
[insert address]

Contractor
[insert information on contractor]

Reference: Guarantee No. **[insert number]**

Dear Sirs,

WHEREAS, the United Nations Development Programme (the “Beneficiary”) and **[Name of Contractor]** (the “Contractor”) have entered into Contract No. **[contract number]** for **[insert description of contract]**, which entered into force on **[date]** (the “Contract”);

WHEREAS, the Contract requires that the Contractor furnishes a bank guarantee for a sum specified in the Contract as security for the Contractor’s satisfactory compliance with its obligations under the Contract;

WHEREAS, we **[Name of the Bank]** (the “Guarantor”), have agreed to give the Contractor such Guarantee;

NOW THEREFORE, we, the Guarantor, hereby undertake to pay to the Beneficiary, upon the Beneficiary’s first written demand and without cavil or arguments any sum or sums not exceeding in

the aggregate **[currency][amount in words and figures]** or such lesser sum of money as the Beneficiary may by such written demand require to be paid, accompanied by the Beneficiary's written statement that the Contractor is in breach of its obligations under the Contract, without the need to specify, prove or show grounds or reasons for such demand. Such statement shall be conclusive evidence of the Beneficiary's entitlement to payment in the amount demanded, up to the amount of this Guarantee.

The maximum guaranteed amount under this Guarantee is **[currency] [amount in words and figures]**.

We, the Guarantor, further agree that no change or addition to or other modification of the terms of the Contract or of the works, goods and services acquired thereunder, which may be made between the Beneficiary and the Contractor, shall in any way release us, the Guarantor, from any liability under this Guarantee, and we hereby waive the notice of any such change, addition or modification.

This Guarantee shall be valid until thirty (30) days after the date of issuance by the Beneficiary of a certificate of satisfactory performance and full completion by the Contractor of its obligations under the Contract.

Subject to the paragraph below, this Guarantee is governed by the Uniform Rules for Demand Guarantees, ICC Publication No. 758. The supporting statement under Article 15(a) thereof is excluded.

Nothing herein or related hereto shall be deemed a waiver express or implied of the privileges and immunities of the United Nations, including its subsidiary organs nor shall it be interpreted or applied in a manner inconsistent with such privileges and immunities.

SIGNATURE AND SEAL OF THE GUARANTOR BANK

Date:

Name of Bank:

Address: