

Ministry of Environment and EnergyRepublic of Maldives

REQUEST FOR PROPOSAL

Consultancy services for Groundwater Resource Management and Aquifer Protection In Maldives (GCF project)

Project Number: GCFPMU/2018/OP3-009

Issued on: 21st September 2018

Issued By:

GCF Project Management Unit Ministry of Environment and Energy

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Maafannu, Male', 20392,	Error! Bookmark not defined.
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"Supporting Vulnerable Communities in Maldives to	o Manage Climate Change-Induced Water Shortages" Error!
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Home-based - Maldives	Error! Bookmark not defined.
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15 months	Error! Bookmark not defined.

1 SCHEDULE OF CRITICAL DATES

ACTIVITY	ACTION DATE	
Date of advertisement	21 st September 2018	
Registration of interest	1 st October 2018 upto 1400hrs	
Bid Clarification	2 nd October 2018 upto 1300hrs	
Deadline to submit proposals	07 ^h October 2018 1100hrs	

2 SUBMISSION REQUIREMENTS

Interested parties **shall submit** all the Forms listed under **Sections 6 (TECHNICAL PROPOSAL - STANDARD FORMS)** and **Section 7 (FINANCIAL PROPOSAL - STANDARD FORMS)**. **Furthermore,** the following related documents shall be submitted for the bids to be considered sufficiently responsive.

Please CHECK in the BOXES to confirm the submission of the required Forms.

	1)	FORM TECH-1: Technical Proposal Submission Form
	2)	FORM TECH-2: Proponent's Organization and Experience Form
	3)	FORM TECH-3: Description of Approach, Methodology and Work plan for performing the
		Assignment
	4)	FORM TECH-4: Team Composition and Task Assignment
	5)	FORM TECH-5: Curriculum Vitae (CV) for proposed Professional Staff
	6)	FORM TECH-6: Work Schedule
	7)	FORM FIN-1: Financial Proposal Submission Form
	8)	FORM FIN-2: Financial Proposal Summary
Please	СН	ECK in the BOXES to confirm the submission of the required related documents.

9) Company profile	
10) Company registration certificate	
11) Organization chart of the Company.	(continued)
12) Copy of the National Identity Card/Passport, Attested copies of Education	onal Certificates
of Proposed members in Form Tech 5	
13) Stamped/signed project completion letters for ALL the projects Listed u	nder FORM
TECH-2: Proponent's Organization and Experience Form. (Cross refer to Projection)	ect# in the Form)
14) GST Registration Certificate	

Request for Proposals

3 LETTER OF INVITATION

Subject: Consultancy services for Groundwater Resource Management and Aquifer Protection In Maldives (GCF project)

- 1. The Government of Maldives has received funding from the Green Climate Fund (GCF) for the project "Supporting Vulnerable Communities in Maldives to Manage Climate Change-Induced Water Shortages". The Government intends to apply part of the proceeds towards procuring the services of Consultancy Firm for Groundwater Resource Management and Aquifer Protection In Maldives (GCF project).
- 2. The main objective of the consultancy is to undertake an assessment of the groundwater quality and recharge rates and develop a groundwater resources management plan with clear recommendations (including specific management and policy or legal recommendation) to ensure improved aquifer recharging and protection.

Specific Objectives

The specific objectives are to;

- Undertake baseline assessment to establish the current status and catchment characterization
- Develop Groundwater resources management plan for improved aquifer recharge and protection with clear action plan for its implementation
- Development a Groundwater monitoring framework with monitoring protocols, institutional roles and responsibilities for its implementation with on the job training and technology transfer component
- Make relevant recommendations on required interventions, in particular on policy and regulatory framework for improved coastal land use and aquifer protection.
- 3. A detailed Terms of Reference (TOR) and Request for Proposal (RFP) for the consulting services will be downloadable on the Ministry's website www.environment.gov.mv. Interested consultation Firms may obtain further information via mail to gcf.watsan@environment.gov.mv
- 4. The Bidder shall be registered to submit the proposal by submitting 'Bidders' Registration Form' to the email address gcf.watsan@environment.gov.mv on or before 1400 hours on October 1st, 2018. Only registered bidders will be qualified to submit a bid proposal. The form will be attached to this gazette advertisement and also made available on the Ministry's website.

- 5. Any clarifications to the bid may be sent to the email addresses gcf.watsan@environment.gov.mv on or before 1300 hours on October 2nd, 2018.
- 6. Proposals shall be delivered in a sealed envelope, bearing the name of the project (Consultancy services for the Development of a Water Security Plan(GCF Project)), bid opening time and date, the address the bid is submitted to (as in the RFP), and the bidders company name, to the Ministry of Environment and Energy at the address specified in the RFP. Proposals shall be valid for a period of 90 days from the date of Opening. Electronic submissions are not allowed.
- 7. Bids should be submitted on or before 1100 hours, Maldivian time on October 7th, 2018. The bids will be opened at 1100 hours, on October 7th, 2018 in the presence of the Bidders who wish to attend the bid opening. Any late bids will be rejected.

GCF Project Management Unit Water and Sanitation Department Ministry of Environment and Energy, Green Building, Handhuvaree Hingun, Maafannu, Male', 20392, Republic of Maldives Tel. (960)-3018-446 Fax (960)-3018-301

4 INSTRUCTIONS TO CONSULTANTS

4.1 Introduction

- a) The Client named in the **Data Sheet** will select a Consultancy Firm from those Firms that submit their proposals for this request.
- b) Interested parties are invited to submit Technical Proposal and a Financial Proposal for the contract named in the **Data Sheet**. The Proposal will be the basis for contract negotiations and ultimately for a signed Contract with the selected Party.
- c) The Client will select a Consultancy Firm from those who show interest to this call for proposals, in accordance with the method of selection specified in the **Data Sheet**.
- d) As a direct response to this document, interested parties must provide their detailed proposals for the "Consultancy services for the Development of a Water Security Plan (GCF Project))". The standards and other statements on such provision and legislative compliance made by the parties as part of their proposals will form a binding part of the final contract document.
- e) The Applicants shall bear all costs associated with the preparation and submission of their proposals and contract negotiation. The Client is not bound to accept any proposal, and reserves the right to annul the selection process at any time prior to Contract award, without thereby incurring any liability to the Applicants.
- f) The Client reserves the right to accept or reject any Proposal and to terminate the tendering process without awarding a contract. The parties should be aware that it is unlikely that the Client will be in a position to go forward with any proposals that fails to meet the statutory and essential requirements, set out in Section 8 the Terms of Reference.

4.2 Conflict of interest

- a) A Party (including its Personnel) that has a business or family relationship with a member of the Client's staff who is directly or indirectly involved in any part of (i) the preparation of the Schedule of requirements, (ii) the selection process, or (iii) supervision of the Contract, may not be awarded a Contract, unless the conflict stemming from this relationship has been resolved in a manner acceptable to the Government throughout the selection process and the execution of the Contract.
- b) The Consultants have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interest of their Client, or that may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the Consultants or the termination of its Contract.

4.3 Fraud and Corruption

The Client requires that all parties including Consultants and their agents (whether declared or not), personnel, sub-contractors, sub-Consultants, service providers and suppliers, observe the highest standard of ethics during the selection and execution its contracts. In pursuance of this policy, the Client:

- a) defines, for the purposes of this provision, the terms set forth below as follows:
 - i. "corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
- iii. "collusive practices" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- iv. "coercive practices" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party.
- v. "obstructive practice" is
 - deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - acts intended to materially impede the exercise of the relevant government authorities' inspection and audit rights.
- b) will reject a proposal for award if it determines that the firm recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c) will cancel the portion of the contract if it determines at any time that representatives of the Client or of a beneficiary were engaged in corrupt, fraudulent, collusive, or coercive practices during the selection process or the execution of that contract, without the Consultants having taken timely and appropriate action satisfactory to the Client to address such practices when they occur; and
- d) will take action against any Party or an individual at any time, in accordance with rules and regulations including by publicly declaring such Parties or individual ineligible, either indefinitely or for a stated period of time.

4.4 Proposal Validity

The Data Sheet indicates how long the Proposals must remain valid after the submission date. The Client will make its best effort to complete negotiations within this period. Should the need arise; however, the Client may request to extend the validity period of proposals. The Parties who agree to such extension shall confirm that they maintain the availability of the Professional staff nominated in the Proposal, or in their confirmation of extension of validity of the Proposal, The Applicants could submit new staff in replacement, who would be considered in the final evaluation for contract award. Applicants who do not agree have the right to refuse to extend the validity of their Proposals.

4.5 Language of Proposal

The proposal documents must be in written English.

4.6 Preparation of Proposals

- a) The Proposal (see para. 1.2), as well as all related correspondence exchanged by the Consultants and the Client, shall be written in the language (s) specified in the RFP.
- b) In preparing their Proposal, Applicants are expected to examine in detail the documents comprising the RFP. Material deficiencies in providing the information requested may result in rejection of the Proposal.
- c) Alternative professional staff shall not be proposed, and only one curriculum vitae (CV) may be submitted for each position.

4.7 Technical Proposal Format and Content

The Technical Proposal shall provide the information indicated in the following paras from (a) to (f) using the attached Standard Forms (Section 4. Technical Proposal).

- a) A brief description of the Consultants' organization and an outline of recent experience of the firm, on assignments of a similar nature are required in FORM TECH 2A & 2B of Section 6. For each assignment, the outline should indicate the names of Sub-Consultants/ Professional staff who participated, duration of the assignment, contract amount, and Consultant's involvement. Information should be provided only for those assignments for which the Consultants was legally contracted by the client as a corporation or as one of the major consultancy firm. Assignments completed by individual Professional staff working privately or through other organisations cannot be claimed as the experience of the Firm, or that of the Consultant's associates, but can be claimed by the Professional staff themselves in their CVs. Consultants should be prepared to substantiate the claimed experience if so requested by the Client.
- b) A description of the approach, methodology and work plan for performing the assignment covering the following subjects: technical approach and methodology, equipment that will be used, work plan, and organization and staffing schedule. Guidance on the content of this section of the Technical Proposals is provided under FORM TECH 3 Section 6. The work

- plan should be consistent with the Work Schedule (FORM TECH 6 of Section 6) which will show in the form of a bar chart depicting the timing proposed for each activity.
- c) The list of the proposed professional staff team by area of expertise, the position that would be assigned to each staff team member, and their tasks (FORM TECH 4 of Section 6).
- d) CV's of the professional staff signed by the staff themselves or by the authorized representative of the professional staff (FORM TECH 5 of Section 6).
- e) The Technical Proposal shall not include any financial information. A Technical Proposal containing financial information may be declared non-responsive.

4.8 Financial Proposal Format and Content

- a) Financial Proposal submitted shall include the total cost for each of the island specified in the TOR (FORM FIN 1) and the total amount of financial proposal shall be inclusive of General Service Tax (GST).
- b) Financial Proposal submitted shall include the breakdown of cost for each of the deliverables (FORM FIN 2)
- c) Failure to submit the FORM FIN 1&2 will lead to the disqualification of the proposal submitted by the Proponent.

4.9 Clarification and Amendment of RFP Documents

- a) During the RFP process, questions or clarifications regarding this RFP document must be requested in writing to the person and address stated in the **Data Sheet**. Requests for clarifications need to be submitted latest by the date and time provided in the **Data Sheet**.
- b) Any additional documentation issued by the Client during the tender process shall be deemed to form part of this RFP and shall supersede any part of the RFP where indicated. The Client may also exercise the option to extend the tendering period and/or postpone the proposal submission date in the event that subsequent documentation is issued.

4.10 Communications

Except as provided in the preceding section relating to questions about this RFP, No parties shall contact any officers, employees, or team members of Client with respect to this RFP. Any oral communication with a Client employee concerning this RFP is not binding on the Client and shall in no way alter any specifications, term or condition of this RFP or any contract documents.

4.11 Submission, Receipt, and Opening of Proposals

a) The original proposal (Technical Proposal and Financial Proposal) shall contain no interlineations or overwriting, except as necessary to correct errors made by the Applicants themselves. The person who signed the proposal must initial such corrections.

- b) An authorized representative of the Applicant shall initial all pages of the original Technical and Financial Proposals. The authorization shall be in the form of a written power of attorney accompanying the Proposal or in any other form demonstrating that the representative has been duly authorized to sign on behalf of the firm.
- c) Applicants shall submit a "Compliance Statement" stating that the offer is made in accordance with the Request for Proposal. Applicants who offer additional or alternative conditions *if applicable* shall clearly state those in their proposals.
- d) The technical proposal and financial proposal must be submitted in a single sealed envelope with one (1) printed copy to the address indicated in the Data Sheet. The proposals shall be placed in a sealed envelope which shall bear the submission address, reference number and be clearly marked "Do Not Open, except in the Presence of the Official Appointed". The Client shall not be responsible for misplacement, losing or premature opening if the outer envelope is not sealed and/or marked as stipulated. This circumstance may be case for Proposal rejection.
- e) The Proposals must be sent to the address indicated in the **Data Sheet** and received by the Client no later than the date specified in the **Data Sheet**, or any extension to this date. Any proposal received by the Client after the deadline for submission shall be returned unopened.

4.12 Evaluation of proposals

- a) From the time the Proposals are opened to the time the Contract is awarded, the Applicants should not contact the Client on any matter related to its Technical and/or Financial Proposal. Any effort by Applicants to influence the Client in the examination, evaluation, ranking of Proposals, and recommendation for award of Contract may result in the rejection of the Consultants' Proposal.
- b) The Proposals shall be opened publicly in the presence of the Consultants' representatives who choose to attend. These Financial Proposals shall be then referred, and the total prices read aloud and recorded. Copy of the record shall be sent to all submitted firms.
- c) The evaluation committee shall evaluate the Technical Proposals on the basis of their responsiveness to the Technical Requirements, applying the evaluation criteria, sub-criteria, and point system specified in the **Data Sheet**. Each responsive Proposal will be given a technical score (St). A Proposal shall be rejected at this stage if it does not respond to important aspects of the RFP, and particularly the Technical Requirements or if it fails to achieve the minimum technical score indicated in the evaluation criteria specified in the **Data Sheet**.
- d) To be eligible for this assignment the consultants must clearly show their capacity to accomplish the work in the required time frame with the proposed project team by showing the adequacy of staff selected and their current workload.

- e) After the technical evaluation is completed, the bidders who are not qualified for technical evaluation will be disqualified for the financial evaluation.
- f) The Applicant is **REQUIRED** to submit Financial Proposal for the bid, using for this purpose the Financial Proposal Submission FORM FIN 1&2.
- g) The Evaluation Committee will correct any computational errors. When correcting computational errors, in case of discrepancy between a partial amount and the total amount, or between word and figures the formers will prevail.
- h) The **highest** evaluated Financial Proposal (Fm) will be given the maximum financial score (Sf) of 100 points. The financial scores (Sf) of the other Financial Proposals will be computed as indicated in the **Data Sheet**. Proposals will be ranked according to their combined technical (St) and financial (Sf) scores using the weights (T = the weight given to the Technical Proposal; P = the weight given to the Financial Proposal; T + P = 1) indicated in the Evaluation Criteria: S = St x T% + Sf x P%. The Party achieving the highest combined technical and financial score for the proposal will be invited for negotiations.

4.13 Damages

- a) The Client may claim damages in respect of any direct loss that can be reasonably attributed to delays, defects or other breaches of contract on the part of the Consultant, unless the Consultant demonstrates that the Consultant did not cause the breach of contract or the reason for the breach of contract.
- b) Liquidated damages shall be the only damages due from the Consultant for such default, other than in the event of termination by Employer under the contract prior to completion of the works. These damages shall not relieve the consultant from their obligation to complete the works, or from any other duties, obligations or responsibilities which they may have under the Contract.
- c) If the agreed delivery date or other time limit in the delivery schedule in respect of which the parties have stipulated is not complied with, and this is not caused by force majeure or circumstances related to the Client, there is a delay on the part of the Consultant that triggers liquidated damages.
- d) The liquidated damages shall accumulate automatically. The liquidated damages amount and the maximum delay damages will be calculated on the basis specified in the **Data Sheet**.
- e) The Client shall not have the right to terminate the Agreement for breach for as long as the liquidated damages continue to accumulate. However, this time restriction shall not apply in the case of wilful misconduct or gross negligence on the part of the Consultant or anyone for whom it is responsible.
- f) If only parts of the agreed deliverables are delayed, the Consultant may request a reduction in the liquidated damages proportional to the ability of the Client to utilise the part of the deliverables that has been delivered.

4.13.1 Limitation of Damages

- i. No damages may be claimed in respect of indirect loss. Loss of data is classified as indirect loss, unless such loss is caused by data handling that is the responsibility of the Consultant under the Agreement.
- ii. Overall damages over the term of the Agreement are limited to an amount corresponding to the contract price, excluding relevant Taxes, or an agreed estimate for the Assignment.
- iii. The said limitations shall not apply in the case of gross negligence or wilful misconduct on the part of the Consultant or anyone for whom it is responsible.

4.14 Retention

- a) The payment of any interim certificate according to contract will amount to deduction for retention, calculated by applying the percentage of retention stated in the **Data Sheet** to the total of the above amounts, until the amount so retained by the Employer reaches the limit specified in the **Data Sheet.**
- b) The repayment of retention shall be on the basis specified in the **Data Sheet.**

5 DATA SHEET

4.1.a	Name of the Client:
	Ministry of Environment and Energy
	Green Building, Handhuvaree hingun, Maafannu, Male', 20392,
	Republic of Maldives
	republic of Marares
4.1.b	Financial Proposal to be submitted together with Technical Proposal in a single envelope on the same day and time specified.
	Please write name of the Consultancy assignment and other required details as per clause 4.11 on the envelopes.
	Name of the assignment is: "Consultancy services for Groundwater Resource Management and Aquifer Protection In Maldives (GCF project)"
4.4 Validity	Proposals must remain valid up to 90 days after the submission date.
4.9	Interested consultants may obtain further information/clarifications on request by
Clarifications	writing an email to the address below no later 2 nd October 2018 before 1300hrs.
of RFP Documents	Email: gcf.watsan@environment.gov.mv
4.11	The Proposal submission address is:
Submission,	COED : AM
Receipt, and	GCF Project Management Unit
Opening of	Water and Sanitation Department Ministry of Environment and Energy,
Proposals	Green Building, Handhuvaree Hingun,
	Maafannu, Male', 20392,
	Republic of Maldives.
	The proposals are expected to be submitted to the address by <u>1100hours</u> local time on <u>07th October 2018</u> , Tuesday.
	Interested firms should register their interest by email no later than 1400hrs on 1^{st} October 2018. Only those parties who register their interest will be allowed to participate in the bid.
	Proposal of additional or alternative conditions to RFP are not allowable

4.12

Evaluation of **Proposals**

Preliminary Evaluation:

Firms who doesn't fulfil the following criteria will be disqualified from the Technical evaluation:

a) Firms shall not propose Project Team Leader with more than 2 ongoing assignments with duration more than 1 year with the Ministry of Environment and Energy.

Criteria, sub-criteria, and point system for the evaluation of Full Technical Proposals are:

Points

(A) Company Profile:	[100]
Similar Projects	[50]
Value of previous Similar Projects	[40]
Organisational Structure	[10]
_	Total $A = \begin{bmatrix} 1 \end{bmatrix}$

The number of points to be assigned to each of the above components shall be determined considering the following four sub-criteria

- 'Similar projects' will be considered based on being comparable in complexity and comparable in value of contract,
- No. of similar projects: 10 points per each similar project with maximum points of 50,
- Value of previous assignments in the formula

[Total value of similar projects of the proposal / Highest value of similar project submitted among all bidders] x 40 points

- Organisational Structure: the 10 points will be given to firms who submit complete organisational structure.

(B) Project Team

[100]

The points will be calculated in accordance to tables in **Clause 6.2 of TOR** (Section 8).

(C) APPROACH, WORK PLAN	[100]
 Approach & Methodology 	[50]
2. Detailed Work plan of the Assignment	[50]

Total C = [

The marks of this section will be based on conformity of the FORM 3&6 to the Scope of Works and Deliverables as in the TOR.

Weights Distribution

	W1 W2 W3	Company Profile Project Team Approach, Work Plan cal Score (St) = A/100*[W1] + H	[30%] [60%] [10%] 8/100*[W2] + C/100*[W3]
	The for Sf = 10 the price	e of the proposal under consideration of the proposal under consideration of the Technical and of and of the technical and of the techn	ial scores is the following: icial score, Fm is the lowest price and F on.
4.13 Damages Amount of Liquidated Damages and maximum duration of Liquid will be calculated on the basis of clause 10.71 of the Public Finance by the Ministry of Finance and Treasury.			-
4.14 Retention	and the		rim certificates, the amount of retention culated on the basis of clause 10.68 of finistry of Finance and Treasury.

6 TECHNICAL PROPOSAL - STANDARD FORMS

FORM TECH-1: Technical Proposal Submission Form

[Location, Date]

[Location, Date]
To: [Name and address of Client]
Dear Sirs:
We, the undersigned, offer to provide the service "Consultancy services for Groundwater Resource Management and Aquifer Protection In Maldives (GCF Project)" in accordance with your Request for Proposal dated [21 st September 2018] and our Proposal. We are hereby submitting our Proposal, which includes this Technical Proposal, and a Financial Proposal sealed in the same envelope.
We hereby declare that all the information and statements made in this Proposal are true and acceptant that any misinterpretation contained in it may lead to our disqualification.
If negotiations are held during the period of validity of the Proposal, we undertake to negotiate on the basis of the proposed staff. Our Proposal is binding upon us and subject to the modifications resulting from Contract negotiations.
We undertake, if our Proposal is accepted, to initiate the services and fulfill the terms and conditions under this contract.
We understand you are not bound to accept any Proposal you receive.
We remain,
Yours sincerely,
Authorized Signature [<i>In full and initials</i>]:
Address:

FORM TECH-2: Proponent's Organization and Experience

A - Proponent's Organization

[Provide here a brief (two pages) description of the background and organization of your firm/entity and each associate for this assignment.]

B - Proponent's Experience

[Using the format below, provide information on each contract/assignment which your Organisation/entity has undertaken as a corporate entity or as individuals, for carrying out **similar consultancy programmes** involving: operational planning, data management software or web portal development, and review and drafting of regulations/legal instruments. Use upto 10 Projects.]

Contract/Project Title:	Contract value of the contract (in MVR):		
Country: Location within country:	Duration of assignment/activity (months):		
Name of Client:	Total NO. of calendar-months of the assignment:		
Address:	Approx. value of the services provided by your firm under the contract (in MVR):		
Start date (month/year): Completion date (month/year):	NO. of calendar-months provided by associated Proponents:		
Name of associated Parties, if any:	Name of professional staff of your firm involved and functions performed:		
Narrative description of Activities/Projection	et:		
Description of actual services provided by	by your staff within the Activities:		

NOTE: Project Completion Letters (signed by the Client) must be submitted for each of the above individual projects

FORM TECH-3: Description of Approach, Methodology and Work plan for performing this consultancy Assignment

Technical approach, methodology and work plan are key components of the Technical Proposal. You are suggested to present your Technical Proposal (up to 10 pages, inclusive of charts and diagrams) divided into the following three short chapters:

- a) Technical Approach and Methodology,
- b) Work Plan, and
- c) Organization and Staffing,
- a) <u>Technical Approach and Methodology</u>. In this chapter you should explain your understanding of the objectives of the assignment, approach to the services, methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output. You should highlight the problems being addressed and their importance, and explain the technical approach you would adopt to address them. You should also explain the methodologies you propose to adopt and highlight the compatibility of those methodologies with the proposed approach.
- b) <u>Work Plan.</u> In this chapter you should highlight the main activities of the assignment, possible sub-activities, their content and duration, phasing and interrelations, milestones (including interim approvals by the Client), and delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the TOR and ability to translate them into a feasible working plan.

Note: The Key Deliverables of the TOR under Article 4.2 must be elaborated under this chapter.

c) <u>Organization and Staffing.</u> In this chapter you should propose the Structure and Composition of your team. You should list the main disciplines of the assignment, the key expert responsible, and proposed technical and support staff.

FORM TECH-4: Team Composition and Task Assignment

Name of Staff	Organisation	Area of Expertise	Position Assigned	Task(s) Assigned
		Hydrologists / groundwater	Hydrologists / groundwater specialist (Team leader)	
		Social sciences, business administration, environmental science or related field	Community Liaison Officer	
		hydrological surveying or related field	Lead Surveyor	
		hydrological surveying or related field	Lead Surveyor 2	

FORM TECH-5: Curriculum Vitae (CV) for proposed Professional Staff

1.	Proposed Position [only one candidate shall be nominated for each position]:	-
2.	Name of Firm [Insert name of firm proposing the staff]:	-
3.	Name of Staff [Insert full name]:	- -
4.	Date of Birth:Nationality:	-
5.	Education: [Indicate college/university and other specialized education of staff member, names of institutions, degrees obtained, and dates of obtainment]:	
6.	Membership of Professional Associations:	-
	Other Training [Indicate significant trainings since degrees under 5 - Education were tained]:	-
8.	Countries of Work Experience: [List countries where staff has worked in the last ten	years]:
9.	Languages [For each language indicate proficiency: good, fair, or poor in speaking, reand writing]:	- eading, -
10.	Experience/ Employment Record (General experience as per TOR) [Starting with pre position, list in reverse order EVERY employment held by staff member since graduation, giving details for each employment in the format below:	- esent
Fro	om [Month/Year]: To [Month/Year]:	
En	nployer:	
Po	sitions held:	
Su	mmary of Projects Undertaken:	

Role:						
10. Experience/ Employment position, list in reverse orde giving details for each employee	er EVERY emp	oloyment h	eld by sta <u>f</u>		- 0	•
From [Month/Year]:	To [Month/Y	'ear]:				
Employer:						
Positions held:	_					
Summary of Projects Undertake	en:					
11. Current commitments in C	Ongoing Proj	ects with t	the Minis	try of En	vironment	and Energy
Name of the Contract/Project: _						
From [Month/Year]:	To [Month/Y	/ear]:				
Positions held:						

Request for Proposals

Summary of Role:

FORM TECH-6: Work Schedule

A 41 14 75 11 11	MONTHS													
Activity/Deliverable Note: Pls Update Sub-activities as relevant	Nov 18	Dec 18	Jan 19	Feb 19	Mar 19	Apr 19	May 19	Jun 19	Jul 19	Aug 19		Sep 19		
Deliverable 01 Inception Report with a detailed methodology and consultancy implementation plan. This will be based on prior consultation with the PMU and other key stakeholders														
Deliverable 02 Baseline assessment report with catchment and aquifer characterization														
Deliverable 03 Groundwater resource management plan for aquifer improvement and protection														
Deliverable 04 Groundwater monitoring framework with protocols for long terms monitoring														
Deliverable 05 Capacity building and training reports														
Deliverable 06 Recommendations on specific policy and regulatory framework interventions for aquifer protection and management														

The consultants shall update this table with the activities that are proposed for each Deliverable. Note that the Work Schedule must adhere to the dates of key Deliverables in the TOR and the Workplan proposed under Form Tech- 3 (b).

The consultants shall complete the assignment by 10 calendar months.

7 FINANCIAL PROPOSAL - STANDARD FORMS

FORM FIN-1: Financial Proposal Submission Form

[Location, Date]

[,
To: [Name and address of Client]
Dear Sirs:
We, the undersigned, offer to provide consultancy service "Consultancy services for Groundwater Resource Management and Aquifer Protection In Maldives (GCF Project)" in accordance with your Request for Proposal dated [21 st September 2018] and our Technical Proposal. Our attached Financial Proposal is for the sum of [Insert amount(s) in words and figures ¹]. This amount is inclusive of the all applicable taxes.
Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal.
We understand you are not bound to accept any Proposal you receive.
We remain,
Yours sincerely,
Authorized Signature [In full and initials]: Name and Title of Signatory: Name of Firm: Address:
1 Financial Proposal sum must coincide with Total Amount of Financial Proposal indicated in Form FIN-2.

FORM FIN-2: Financial Proposal Summary

SUMMARY OF COSTS

Costs	Amount (in MVR)
Deliverable 01 Inception Report	
Deliverable 02 Baseline assessment report	
Deliverable 03 Groundwater resource management plan	
Deliverable 04 Groundwater monitoring framework	
Deliverable 05 Recommendations	
Subtotal Taxes Applicable (please detail separately all taxes applicable) Total Amount of Financial Proposal	

The consultancy firm is to submit copy of the GST registration certificate along with the financial proposal.

All Consultancy firm shall express the price of their services in Maldivian currency

[If the Individual is subject to GST as per MIRA Regulations and Guidelines. The GST Registration Certificate and GST quote in the financial proposal need to be included.]

8 TERMS OF REFERENCE

Terms of Reference

Terms of Reference for Groundwater Resource Management and Aquifer Protection In Maldives

1. Background and Context

The Republic of Maldives is a low lying, atoll based, archipelagic nation in the central Indian Ocean. It comprises 1,190 islands grouped into 26 atolls that together occupy a land area of 298 km2 and form a chain over 820 km in length, spread over an area of around 90,000 sq km. With a total population of 341,256, it is the smallest Asian country in terms of area and population. The country has an average elevation of 1.5 meters above sea- level. The two most important sectors of the economy are tourism and fisheries which contribute nearly 80% of the country's Gross Domestic Product (GDP). Maldives is among the most susceptible and vulnerable to climate change.

1.1 Project description

The Government of Maldives has received funding from the Green Climate Fund (GCF) for the project "Supporting Vulnerable Communities in Maldives to Manage Climate Change-Induced Water Shortages".

The outer islands of the Maldives experiences drinking water shortages during the dry season. These shortages have had significant adverse human, environmental and social impacts on the outer island. The key problems pertaining to freshwater security relate to the increasingly variable rainfall patterns induced by climate change and sea-level rise induced salinity of groundwater. The Government faces constraints in responding to the challenge at hand without assistance, especially in the context of anticipated impacts of climate change.

In response to this climate challenge, the 5-year GCF funded project has the objective to deliver safe and secure freshwater to 105,000 people in the islands of Maldives in the face of climate change risks. This will be achieved by delivering the following results:

a. Scaling up integrated water supply system to provide safe water to vulnerable households (at least 32,000 people, including 15,000 women);

- b. Decentralized and cost-effective dry season water supply system introduced benefiting 73,000 people across 7 Northern Atolls;
- c. Groundwater quality improved to secure freshwater reserves for long term resilience on 49 islands;

The Government intends to apply part of the proceeds towards procuring the services of Consultancy Firm for the works of "Undertaking Baseline assessment and Development of groundwater management system, Maldives"

1.2 Groundwater in Maldives

The freshwater lens underlying each island has historically been the most important water source for islands. The thickness of the freshwater lens, which typically floats atop the denser sea water, is controlled by a number of factors including island width, rainfall rates and associated infiltration and recharge. Depending on these factors, lens thickness range from less than a few meters to 25-30 meters. Knowledge regarding quantity of groundwater of the Maldives during average annual climatic variations is lacking, but recent modelling results indicate that many of the islands are expected to have a measurable freshwater lens although significant decreases (at least 50%) in thickness can occur during the dry season months. For small islands (less than 300 meters in width) complete depletion of the lens is likely to occur during the dry season or after successive years of low annual rainfall. The freshwater lens is thicker for islands in the South of the country due to higher rainfall levels than the Central and Northern regions, with the North being particularly dry. Furthermore, excessive groundwater extraction in relation to recharge has led to salt water intrusion and up-coning of saline water together with the preferential flow paths and reduction of the efficiency of natural recharge processes. Thus, the concern is that during droughts, over-pumping can alter the size of the aquifer and limit recovery to its former size. Observation and anecdotal evidence points to ponding due to soil compaction and reduced infiltration capacity in areas of roads and built up areas, leading to evaporation losses.

When considering factors that affect the quality of groundwater in the outer islands, population growth will mean that sewage discharges will increase by approximately the same rate, and the rate of urbanization (4.2%) will result in higher density communities with knock-on impacts on pollution from waste disposal, particularly given the fragility of the freshwater lenses. Furthermore, higher urbanization will preclude the rainwater to permeate into the underground lenses unless a deliberative protection of catchment areas takes place.

Groundwater is highly vulnerable to the impacts of climate change. Rising global temperatures may result in greater heat stress for people and ecosystems, thus, increasing water withdrawal In addition, sea-level rise, increased wave energy at the coast and increased frequency of tidal surges will increase island-overtopping events and coastal erosion which will increase saline intrusion into freshwater lenses. Two drought issues are especially risky for Maldives: i) extended dry seasons during which harvested rainwater runs out; and ii)

reduced overall recharge during the wet season, affecting the availability of groundwater. Thus, the patterns of rainfall are as important as average annual changes.

Due of the hydrogeology of the island, the interrelated issues of groundwater quality and quantity can, among others, be majorly addressed by management approaches that encompass the entire recharge / catchment area. One of the project results is ensure groundwater quality is improved to secure freshwater reserves for long term resilience on the project islands. In line with this project objective, it is planned to undertake an assessment of the groundwater quality status and develop aquifer management system for Maldives. The Ministry of Environment and Energy of Maldives plans to hire a consulting firm to undertake this task. The target islands of the assignment are:

- AA. Bodufulhadhoo
- ADh. Dhigurah
- Dh. Meedhoo
- Ga. Kon'dey
- GDh. Fiyoari
- Ha. Utheem
- HDh. Nolhivaramfaru
- M. Raiymandhoo
- N. Hen'badhoo
- Sh. Funadhoo
- Th. Kin'bidhoo
- B. Dharavandhoo
- R. Maduvvari

2. Objectives of the Consultancy

2.1 Main Objectives

The main objective of the consultancy is to undertake an assessment of the groundwater quality and recharge rates and develop a groundwater resources management plan with clear recommendations (including specific management and policy or legal recommendation) to ensure improved aquifer recharging and protection.

2.2 Specific Objectives

The specific objectives are to;

a. Undertake baseline assessment to establish the current status and catchment characterization

- b. Develop Groundwater resources management plan for improved aquifer recharge and protection with clear action plan for its implementation
- c. Development a Groundwater monitoring framework with monitoring protocols, institutional roles and responsibilities for its implementation with on the job training and technology transfer component
- d. Make relevant recommendations on required interventions, in particular on policy and regulatory framework for improved coastal land use and aquifer protection.

3. Scope of Work

The envisaged and planned scope of work for respective includes but not limited to the following;

3.1 Baseline assessment and catchment characterization

Across the Maldives there is large uncertainty related to hydrology, water quality and quantity and in general the catchment status in the islands. To address this knowledge gap, a detailed, assessment will be conducted on 13 islands to establish the current status and catchment characterization. To this end, the consultant will;

- Review available data on previous groundwater assessment reports undertaken by the ministry, in particular through the Adaptation fund project and the studies on the 4 Island under this project.
- Undertake baseline assessment of geological, hydrological (physiochemical, microbiological, geo-physical) and land-use information for 13 islands. The survey shall be conducted such that the whole island will be covered and a detailed overview of the ground water quality and quantity of each island can be obtained. Minimum requirements hydrological studies are as follows:
 - Physiochemical: The following parameter shall taken for each island: pH,
 Dissolved, Oxygen, Electrical Conductivity, Turbidity, Temperature, Salinity,
 Ammonia, Nitrate, Phosphate
 - o Microbiological: The following parameters shall be taken for each island: total coliform and fecal coliform
 - o Geophysical: Shall be recorded from electrical resistivity Instrument (ER) and the EM31-MK2
- Assess the present impacts on the freshwater lens and quality of other water sources
- Estimate rates of groundwater recharge and discharge.

3.2 Groundwater / Aquifer management Plan

A groundwater resources management plan will be informed by the baseline assessment and will entail the framework for groundwater improvement and protection with a key focus on increasing aquifer recharge and protection against contamination. Based on the findings of the groundwater assessment and as part of the groundwater management plan developments, the consultant will;

- Develop strategic objectives for improvement, protection and sustainable management of the groundwater in line with the objectives of the project
- Identify and recommend required interventions including land use practices and appropriate management approaches, In addition, appropriate physical interventions necessary for proper groundwater management will be evaluated and recommended. Focus will be given to the potential of recycling and re-use of grey water and flood water management.
- Propose institutional roles and practices taking in to account the key stakeholders
 including the important roles played by women. At island level, the consultancy will
 propose appropriate participatory management arrangements including water quality
 tasks teams. Possible role of Island water management committee will be explored
 and discussed through community dialogue platform.
- Develop a strategic action plan for the implementation of the groundwater management plan

3.3 Groundwater monitoring Framework

A groundwater monitoring framework will include a detailed monitoring protocols, institutional roles and responsibilities for its implementation. Based on the baseline assessment and the groundwater management plan, the consultant will;

- Develop an inventory of the parameters for groundwater quality and level (quantity) to be analysis (measured)
- Development the protocols for long terms monitoring including the methods (sampling and analysis), frequency and reporting;
- Provide an list (inventory) of equipment (with specifications) required for the monitoring
- Indicate roles and responsibilities for the implementation of the monitoring. This will be based on close consultation with various stakeholders and will be in line with their roles current or foreseen under framework of improvement groundwater management.
- At island level, attention will be paid to promote participatory water monitoring through the community platforms (with emphasis on female participation) based on user friendly methods. This will ensure active involvement of the community in water quality monitoring and will enhance appreciation of the current status
- Develop a methodology of data collection to create a model of aquifer response to future trends in demand and effects from climate change and associated sea level rise. The numerical groundwater flow model (e.g. SEAWAT developed by the USGS) will be developed at a later stage, that takes into account density dependent flow and transport processes to effectively account for all of the components of the water balance some of which are difficult to monitor directly (e.g. discharge of freshwater to the sea). Once sufficiently well calibrated against measured data (using information from the studies mentioned above), the model will be used to determine the effects of different stress factors on groundwater availability and the dynamics of the freshwater

lens and related safe limits for withdrawal. A scenario analysis will be carried out whereby the calibrated model will be used to predict a series of 'What If' type scenarios, covering the period up to the end of the century. Scenarios related to increasing demand-related stresses due to increasing population and potentially new industrial developments, and from climate-related pressures due to sea level rise and changes in rainfall and evapotranspiration would be examined. Data from global circulation models and data for projected sea level rises from the literature will be applied. Also covered would be scenarios with and without investments into MAR.

• Identify capacity gaps at island levels and also nationally with respect to the stakeholder roles, design and deliver training on groundwater monitoring and testing based on identified gaps.

3.4 Recommendations on Policy and Regulatory Framework

Based on the groundwater assessment and groundwater resources management plan developed the consultant will review relevant land use policies and the regulatory framework for land use to protect groundwater catchment areas (maintenance of green zones, such as park, stadiums and other areas to allow natural replenishment) and make policy recommendations for legislative / regulatory consideration at a strategic level.

4. Expected outputs and Deliverables

The following are the expected outputs and deliverables.

- a. Inception Report with a detailed methodology and consultancy implementation plan. This will be based on prior consultation with the PMU and other key stakeholders to ensure better understanding of the context.
- b. Baseline assessment report with catchment and aquifer characterization. Furthermore all the raw data shall be submitted to the PMU in a format which could be readily imported to a GIS system.
- c. Groundwater resource management plan for aquifer improvement and protection
- d. Groundwater monitoring framework with protocols for long terms monitoring
- e. Recommendations on specific policy and regulatory framework interventions for aquifer protection and management with inclusion of capacity gap studies as highlighted in the scope of works

The consulting firm will be responsible for all above set out deliverables

5. Duration and Payments Schedule

The consultancy will be undertaken with a period of 07 months and is expected to start from September 2018. The consultancy contract will be based on lump sum modality and all payments based on realization of respective deliverables as set out in the table below;

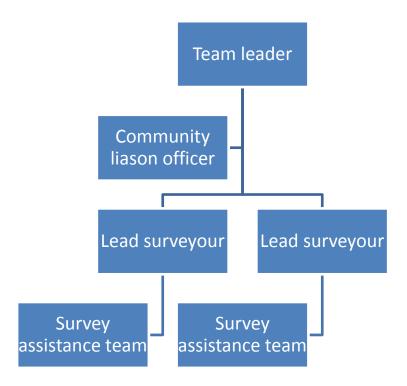
Activity / Deliverable	Due date and remarks	Installment for Payment
Inception Report with a detailed methodology and consultancy implementation plan. This will be based on prior consultation with the PMU and other key stakeholders	14 days from contract signing	05%
Baseline assessment report with catchment and aquifer characterization		40%
Groundwater resource management plan for aquifer improvement and protection		15%
Groundwater monitoring framework with protocols for long terms monitoring	6 months from contract signing	15%
Recommendations on specific policy and regulatory framework interventions for aquifer protection and management with inclusion of capacity gap studies as highlighted in the scope of works	7 months from contract signing	15%

6. Project Team of experts

The following staff shall be employed in team as detailed below;

#	Post	No
1	Hydrologists / groundwater specialist (Team leader)	1
2	Community Liaison Officer	1

3 Lead Surveyors 2



6.1 Similar Assignments

To be eligible for this assignment, the consultancy firm must demonstrate past experience in performing the services (description of similar assignments, Value of such assignments). The Firm shall have carried out a minimum of Two (2) similar assignments with an average contract value of MVR 500,000.00.

6.2 Qualifications of the Design and Consultancy team

The Consultant should submit full CV's for each of the proposed staff members highlighting the criteria given below.

	HYDROLOGIST / GROUNDWATER SPECIALIST		Sub- Category		Total Score	Sub-Score
Education & Qualification	Bachelor's degree in Hydrology and water resources or related field.				6.0	
	Experience in hydrological research / studies.	(a)	Experience of 05 Years	5		10.0
Conord Emerica		(b)	Experience of 03 Years	3	10.0	6.0
General Experience		(c)	Experience of 01 Years	1		2.0
	Experience in groundwater research / studies in SIDS countries	(a)	Experience of 05 Years	5		4.0
Specific Experience		(b)	Experience of 04 Years	4	4.0	3.2
Specific Emperience		(c)	Experience of 03 Years	3	110	2.4

	SURVEYORS (2 lead surveyors will be evaluated separately)			Sub- Category		Total Score	Sub-Score
Education & Qualification	Diploma in hydrological surveying or related field					6.0	
	ral Experience Experience hydrological surveys	(a)	a)	Experience of 03Years	5		10.0
Ceneral Evnerience		(b)	5)	Experience of 02 Years	3	10.0	6.0
General Experience		(c		Experience of 01 Years	1	10.0	2.0
	Experience groundwater surveys	(a)	a)	Experience of 03 Years	5		4.0
Specific Experience		(b))	Experience of 02 Years	4	4.0	3.2
Specific Experience		(c	2	Experience of 01 Years	3	110	2.4

	COMMUNITY LIASON OFFICER		Sub- Category		Total Score	Sub-Score
Education & Qualification	Bachelor's degree in Social sciences, business administration, environmental science or related field				6.0	
	Experience in undertaking community consultations and liaising with community in undertaking development project.	(a)	Experience of 05 Years	5		10.0
General Experience			Experience of 03 Years	3	10.0	6.0

		(c)	Experience of 01 Years	1		2.0
Specific Experience	Previous relevant experience working in the Maldives.		Experience of 05 Years Experience of 04 Years	5	4.0	4.0 3.2
Specific Experience		(c)	Experience of 03 Years	3	1.0	2.4

The Team Leader for this assignment SHOULD NOT be working more than TWO project assignment in the Ministry of Environment and Energy.

7. Reporting Requirements

The consultants should submit a report at the end of each deliverable as per schedule section 5 of this TOR, in a format agreed with the MEE/PMU representative. At the end of the assignment consolidated report summarizing the events of the deliverable shall be submitted.

8. Equipment, logistics and facilities

The Consultants shall ensure that experts are adequately supported and equipped. In particular he/she shall ensure that there are sufficient administrative, computing and secretarial provision to enable experts to concentrate on their primary responsibilities. The Consultant shall meet the full costs for the supply of the teams including all travels, remuneration, insurance, emergency medical aid, facilities and all else necessary for the competent operation of their teams. The Consultants will provide their own office space for their Project team.