



REQUEST FOR PROPOSAL (RFP)

(Development of a fisher-community user-friendly mobile application for geo-localization of Fish Aggregating Devices (FADs) and sharing of data collected by satellite buoys)

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|------------------------|---|
| NAME & ADDRESS OF FIRM | DATE: Click here to enter a date. |
| | REFERENCE: RFPMUS2022-009 |

Dear Sir / Madam:

We kindly request you to submit your Proposal for **Development of a fisher-community user-friendly mobile application for geo-localization of Fish Aggregating Devices (FADs) and sharing of data collected by satellite buoys.**

Please be guided by the form attached hereto as Annex 2, in preparing your Proposal.

Proposals may be submitted on or before **Monday, June 20, 2022** and via the UNDP e-tendering platform at <https://etendering.partneragencies.org>.

Your Proposal must be expressed in the English Language, and valid for a minimum period of **90 days**

While preparing your Proposal, it shall remain your responsibility to ensure that it reaches the address above on or before the deadline. Proposals that are received by UNDP after the deadline indicated above, for whatever reason, shall not be considered for evaluation. If you are submitting your Proposal by email, kindly ensure that they are signed and in the .pdf format, and free from any virus or corrupted files.

Services proposed shall be reviewed and evaluated based on completeness and compliance of the Proposal and responsiveness with the requirements of the RFP and all other annexes providing details of UNDP requirements.

The Proposal that complies with all the requirements, meets all the evaluation criteria, and offers the best value for money shall be selected and awarded the contract. Any offer that does not meet the requirements shall be rejected.

Any discrepancy between the unit price and the total price shall be re-computed by UNDP, and the unit price shall prevail, and the total price shall be corrected. If the Service Provider does not accept the final price based on UNDP's re-computation and correction of errors, its Proposal will be rejected.

No price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted by UNDP after it has received the Proposal. At the time of Award of Contract or Purchase Order, UNDP reserves the right to vary (increase or decrease) the quantity of services and/or goods, 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.

Any Contract or Purchase Order that will be issued because of this RFP shall be subject to the General Terms and Conditions attached hereto. The mere act of submission of a Proposal implies that the Service Provider accepts without question the General Terms and Conditions of UNDP, herein attached as Annex 3.

Please be advised that UNDP is not bound to accept any Proposal, nor award a contract or Purchase Order, nor be responsible for any costs associated with a Service Providers preparation and submission of a Proposal, regardless of the outcome or the manner of conducting the selection process.

UNDP's vendor protest procedure is intended to afford an opportunity to appeal for persons or firms did not award a Purchase Order or Contract in a competitive procurement process. If you believe you have not been fairly treated, you can find detailed information about vendor protest procedures in the following link:

<http://www.undp.org/content/undp/en/home/operations/procurement/business/protest-and-sanctions.html>


UNDP encourages every prospective Service Provider to prevent and avoid conflicts of interest, by disclosing to UNDP if you, or any of your affiliates or personnel, were involved in the preparation of the requirements, design, cost estimates, and other information used in this RFP.

UNDP implements a zero tolerance on fraud and other proscribed practices, and is committed to preventing, identifying, and addressing all such acts and practices against UNDP, as well as third parties involved in UNDP activities. UNDP expects its Service Providers to adhere to the UN Supplier Code of Conduct found in this link :

https://www.un.org/Depts/ptd/sites/www.un.org.Depts.ptd/files/files/attachment/page/pdf/unscc/conduct_english.pdf

Thank you and we look forward to receiving your Proposal.

Sincerely yours,

DocuSigned by:

444BF6C75FFD4E9...

Fatuma Musa

Operations Manager

27 May 2022

Annex 1**Description of Requirements**

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|--|---|
| Context of the Requirement | <p>The assignment aims at empowering the artisanal fishers to fish outside the lagoon and around Fish Aggregating Devices (FADs) in a cost-effective manner by making use of adequate technology. Modern FADs equipped with satellite buoys will be installed in the open sea around Mauritius and Rodrigues Islands respectively. Relevant data such as position coordinates of the FADs, estimated biomass under the FADs, movement of the biomass and Sea Surface Temperature gathered by the satellite buoys will be communicated through the satellite system in near-real time to a server located at a station of the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) for Mauritius and the Rodrigues Regional Assembly (RRA) for Rodrigues. The exact location of the server will be communicated to the service provided prior to start of the contract. The data sent by the satellite buoy will eventually be transmitted by a mobile application (App) to the artisanal FAD fishers.</p> <p>The mobile application (App) to be developed will make use of local spatial information to assist the fishers in locating the FADs. The application will also give the fishers an estimate of the biomass underneath the FADs which is expected to improve fishing efficiency. The specific objectives of the assignment are to:</p> <ul style="list-style-type: none"> i. Help the fishers navigate directly and in a cost-effective manner to the FADs, and ii. Enable the fishers to increase their daily catch through improved planning based on pre-fishing available data thus allowing improvement in fishing efficiency. |
| Implementing Partner of UNDP | Ministry of Blue Economy, Marine Resources, Fisheries and Shipping and the Rodrigues Regional Assembly |
| Brief Description of the Required Services ¹ | <p>The main objectives of this assignment are split into two phases:</p> <ul style="list-style-type: none"> i. Market Assessment of Artisanal Fishers Mobile Application's (App) Requirements; and ii. Development of a fisher-community user friendly mobile app with integration of a fisher database. |
| List and Description of Expected Outputs to be Delivered | Kindly refer to Annex 3 – Terms of References |

¹ A detailed TOR may be attached if the information listed in this Annex is not sufficient to fully describe the nature of the work and other details of the requirements.

| | | | | |
|--|---|--------------------|---|---|
| Person to Supervise the Work/Performance of the Service Provider | Kindly refer to Annex 3 – Terms of References | | | |
| Frequency of Reporting | 1) Weekly status reports on project activities (from start of assignment until project completion (18 weeks). 2) Monthly status reports on technical support activities following go-live (for 12 months). | | | |
| Progress Reporting Requirements | Kindly refer to Annex 3 -Terms of References | | | |
| Location of work | This assignment will be undertaken remotely and, in the locations, designated in the Terms of References – Annex 3. | | | |
| Expected duration of work | 18 weeks | | | |
| Target start date | 15 July 2022 | | | |
| Latest completion date | 31 January 2023 | | | |
| Travels Expected | Given the agile nature of the assignment and the need for both phase I (market assessment and design of the structure) and phase II (development and implementation of the mobile app and its accompanying backend) to run in parallel, the key staff of the service provider are expected to be in Mauritius during 6 weeks of the assignment. | | | |
| | Destination/s | Estimated Duration | Brief Description of Purpose of the Travel | Target Date/s |
| | Mauritius | 6 weeks | Market Assessment, Design, Development, and Implementation of the software 1. Phase I 2. Phase II | 1. 15 to 30 July 2022 2. 05 to 31 January 2023 |
| Special Security Requirements | N/A | | | |
| Facilities to be Provided by UNDP (i.e., must be excluded from Price Proposal) | N/A | | | |
| Implementation Schedule indicating breakdown and timing of activities/sub-activities | <input checked="" type="checkbox"/> Required | | | |

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| Names and curriculum vitae of individuals who will be involved in completing the services | <input checked="" type="checkbox"/> Required |
| Currency of Proposal | <input checked="" type="checkbox"/> United States Dollars (foreign registered entity) <input checked="" type="checkbox"/> Local Currency (locally registered entity) |
| Value Added Tax on Price Proposal ² | <input checked="" type="checkbox"/> must be exclusive of VAT and other applicable indirect taxes |
| Validity Period of Proposals (Counting for the last day of submission of quotes) | <input checked="" type="checkbox"/> 90 days In exceptional circumstances, UNDP may request the Proposer to extend the validity of the Proposal beyond what has been initially indicated in this RFP. The Proposal shall then confirm the extension in writing, without any modification whatsoever on the Proposal. |
| Partial Quotes | <input checked="" type="checkbox"/> Not permitted |
| Payment Terms ³ | Kindly refer to Annex 3 – para-P Price and Schedule of Payments. |
| Person(s) to review/inspect/ approve outputs/ completed services and authorize the disbursement of payment | UNDP Mauritius CO will be managing this contract. The consulting firm will continually interact and report progress to UNDP Project Managers and will work closely to ensure the successful implementation of the assignment. Kindly refer to Annex 3 – para-K for further details on the proposed contractual arrangement |
| Type of Contract to be Signed | <input checked="" type="checkbox"/> Purchase Order <input checked="" type="checkbox"/> Facesheet |
| Criteria for Contract Award | <input checked="" type="checkbox"/> Highest Combined Score (based on the 70% technical offer and 30% price weight distribution) <input checked="" type="checkbox"/> Full acceptance of the UNDP Contract General Terms and Conditions (GTC). This is a mandatory criterion and cannot be deleted regardless of the nature of services required. Non-acceptance of the GTC may be grounds for the rejection of the Proposal. |

² VAT exemption status varies from one country to another. Pls. check whatever is applicable to the UNDP CO/BU requiring the service.

³ UNDP preference is not to pay any amount in advance upon signing of contract. If the Service Provider strictly requires payment in advance, it will be limited only up to 20% of the total price quoted. For any higher percentage, or any amount advanced exceeding \$30,000, UNDP shall require the Service Provider to submit a bank guarantee or bank cheque payable to UNDP, in the same amount as the payment advanced by UNDP to the Service Provider.

Criteria for the
Assessment of
Proposal

Technical Proposal (70%)

| Summary of Technical Proposal Evaluation Forms | | | Maximum Points Obtainable |
|--|---|--|---------------------------|
| 1. | Expertise of Firm/Organization | | 100 |
| 2. | Proposed Methodology, Approach, and Implementation Plan | | 100 |
| 3. | Management Structure and Key Personnel | | 800 |
| Total | | | 1000 |

| Section 1. Expertise of the Firm/Organization | | Maximum Points Obtainable |
|---|---|---------------------------|
| 1 | Firm's general Experience (<i>years of the organization's existence</i>) | 50 |
| | Below 07 years (0 points) | |
| | 07 - 15 years (45 points) | |
| | Beyond 15 years (50 points) | |
| 2 | Specific experience in carrying similar projects (<i>Number of projects</i>) | 50 |
| | At national level: Less than 3 projects (0 points) | |
| | At national level :3-5 projects (40 points) | |
| | At national level: More than 5 projects (45 points) | |
| | At least 1 project at regional /international level together with at least 3 projects at National level (50 points) | |
| Total section 1 | | 100 |

| Section 2. Proposed Methodology, Approach, and Implementation Plan | | Maximum Points Obtainable |
|--|--|---------------------------|
| 1 | Technical approach and methodology | 50 |
| | Understanding of the objectives of the assignment | 15 |
| | Interpretation of scope of tasks in line with the Terms of Reference | 15 |
| | Methodology for carrying out the activities and obtaining the expected output/Degree of detail of output | 20 |
| 2 | Workplan | 50 |
| | Main activities of the assignment and its logical sequences | 30 |
| | Efficient implementation plan, milestones, and delivery dates of the assignment | 20 |
| Total section 2 | | 100 |

| Section 3. Management Structure and Key Personnel | | Maximum Points Obtainable |
|---|--|---------------------------|
| Management structure and key personnel | | |
| 1 | Management structure | 200 |
| | Composition of team | 100 |
| | Organizational structure | 100 |
| 2 | Key expert qualifications and competence for assignment | 600 |
| 2.1 | Key Expert 1 – Market Specialist | |
| A | General Academic Qualification: <ul style="list-style-type: none">At least a master’s degree in Information and Communications Technology(ICT), Web Application Development or Marketing (including Digital Marketing or in a related field which is substantially relevant to the scope defined for Phase 1 of the assignment. | |
| | Below Master’s (0 points) | 100 |
| | Master’s (80 points) | |
| | Doctorate/ PhD (100 points) | |
| B | Years of relevant experience in implementing assignments of similar nature | |
| | At least 5 years’ relevant experience in similar assignments. | 90 |
| | Less than 5 years (0 points) | |
| | 5 – 8 years (75 points) | |
| | Beyond 8 years (90 points) | |
| | Excellent communication skills - written and oral (English and French) | 10 |
| | English only (5 points) | |
| | English and French (10 points) | |
| 2.2 | Key Expert 2 - Website/ Mobile App Development Expert | |
| A | General Academic Qualification: <ul style="list-style-type: none">At least a Degree in Information System, Software Engineering, or any other closely related field(s) | |
| | Below Bachelor’s Degree (0 points) | 50 |
| | Bachelor’s degree (40 points) | |
| | Above Bachelor’s degree (50 points) | |
| B | Years of relevant experience in implementing projects of similar nature | |
| | At least 5 years’ relevant experience in terms of successful design and development of responsive websites and mobile apps for public or private sector in Mauritius and/or abroad | 90 |
| | Less than 5 years (0 points) | |
| | 5 – 8 years (75 points) | |
| | Beyond 8 years (90 points) | |
| | Experience in implementing at least 2 similar projects (Web/Mobile Application platform, Open-Source CMS, and integration with payment gateway) | 100 |
| | Less than 2 assignments (0 points) | |
| | 2 - 4 assignments (80 points) | |

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| | More than 4 assignments (100 points) | |
| | Excellent communication skills - written and oral (English and French) | |
| | English only (5 points) | 10 |
| | English and French (10 points) | |
| 2.3 | Key Expert 3 - System/Cloud Engineer | |
| A | General Academic Qualification: | |
| | <ul style="list-style-type: none"> At least a Diploma in Information Technology or closely related field(s) | |
| | Below Diploma (0 points) | 20 |
| | Diploma (15 points) | |
| | Above Diploma (20 points) | |
| B | Years of relevant experience in implementing projects of similar nature | |
| | At least 3 years' relevant experience in deployment of websites and related services (e.g., Apache) on public or private cloud | |
| | Less than 3 years (0 points) | 40 |
| | 3 – 5 years (30 points) | |
| | Beyond 5 years (40 points) | |
| | At least 3 years' relevant experience in providing technical administrator support for content management systems e.g., WordPress, Drupal, etc. | |
| | Less than 3 years (0 points) | 40 |
| | 3 – 5 years (30 points) | |
| | Beyond 5 years (40 points) | |
| | At least 3 years' relevant experience in sizing, configuration and installation of operating systems and services on servers on the cloud | |
| | Less than 3 years (0 points) | 40 |
| | 3 – 5 years (30 points) | |
| | Beyond 5 years (40 points) | |
| | Excellent communication skills - written and oral (English and French) | |
| | English only (5 points) | 10 |
| | English and French (10 points) | |
| | Total Section 3 | 800 |

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| | <p>Financial Proposal (30%)</p> <p>To be computed as a ratio of the Proposal's offer to the lowest price among the proposals received by UNDP.</p> <p>The formula for the rating of the Proposals will be as follows:</p> <div style="border: 1px solid black; padding: 5px;"> <p><u>Rating the Technical Proposal (TP):</u> TP Rating = (Total Score Obtained by the Offer / Max. Obtainable Score for TP) x 100</p> <p><u>Rating the Financial Proposal (FP):</u> FP Rating = (Lowest Priced Offer / Price of the Offer Being Reviewed) x 100</p> <p><u>Total Combined Score:</u> Combined Score = (TP Rating) x (Weight of TP, e.g., 70%) + (FP Rating) x (Weight of FP, e.g., 30%)</p> </div> |
| UNDP will award the contract to: | <input checked="" type="checkbox"/> One and only one Service Provider |
| Contract General Terms and Conditions ⁴ | <input checked="" type="checkbox"/> General Terms and Conditions for contracts (goods and/or services) Applicable Terms and Conditions are available at: http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html |
| Annexes to this RFP ⁵ | <input checked="" type="checkbox"/> Form for Submission of Proposal (Annex 2) <input checked="" type="checkbox"/> Detailed TOR |
| Contact Person for Inquiries (Written inquiries only) ⁶ | Deepa Seeburn Procurement Assistant deepa.seeburn@undp.org with copy to Jean Lindsay Azie Project Manager lindsay.azie@undp.org Any delay in UNDP's response shall be not used as a reason for extending the deadline for submission, unless UNDP determines that such an extension is necessary and communicates a new deadline to the Proposers. |

⁴ Service Providers are alerted that non-acceptance of the terms of the General Terms and Conditions (GTC) may be grounds for disqualification from this procurement process.

⁵ Where the information is available in the web, a URL for the information may simply be provided.

⁶ This contact person and address is officially designated by UNDP. If inquiries are sent to other person/s or address/es, even if they are UNDP staff, UNDP shall have no obligation to respond nor can UNDP confirm that the query was received.

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| Other Information | <p>Qualifications of the Service Provider</p> <p>The Service Provider must describe and explain how and why they are the best entity that can deliver the requirements of UNDP by indicating the following:</p> <ul style="list-style-type: none"> a) Profile – describing the nature of business, field of expertise, licenses, certifications, accreditations, b) Business Licenses – Registration Papers, Tax Payment Certification, etc., c) Latest Audited Financial Statement (for the last 3 years) – income statement and balance sheet to indicate Its financial stability, liquidity, credit standing, and market reputation, etc., d) Track Record – list of clients for similar services as those required by UNDP, indicating description of contract scope, contract duration, contract value, contact references, e) Certificates and Accreditation – including Quality Certificates, Patent Registrations, Environmental Sustainability Certificates, etc. f) Written Self-Declaration that the company is not in the UN Security Council 1267/1989 List, UN Procurement Division List or Other UN Ineligibility List. |
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Previous Relevant Experience

Please list only previous similar assignments successfully completed (minimum 3 projects – development of mobile application) in the last 5 years as per the format below.

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 Details (include Phone and Email Addresses) | Contract Value | Period of activity and status | Types of activities undertaken |
|--------------------------------------|--|----------------|-------------------------------|--------------------------------|
| | | | | |
| | | | | |
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Bidders may also attach their own Project Data Sheets with more details for assignments above.

Proposed Methodology for the Completion of Services

The Service Provider must describe how it will address/deliver the demands of the RFP; providing a detailed description of the essential performance characteristics, reporting conditions and quality assurance mechanisms that will be put in place, while demonstrating that the proposed methodology will be appropriate to the local conditions and context of the work.

Qualifications of Key Personnel

The Service Provider must provide:

- Names and qualifications of the key personnel that will perform the services indicating who is Team Leader, who are supporting, etc.
- CVs demonstrating qualifications must be submitted if required by the RFP; and
- Written confirmation from each personnel that they are available for the entire duration of the contract.

Annex 2

FORM FOR SUBMITTING SERVICE PROVIDER'S PROPOSAL⁷***(This Form must be submitted only using the Service Provider's Official Letterhead/Stationery⁸)***

[insert: Location]

[insert: Date]

To: [insert: Name and Address of UNDP focal point]

Dear Sir/Madam:

We, the undersigned, hereby offer to render the following services to UNDP in conformity with the requirements defined in the RFP dated [specify date] , and all its attachments, as well as the provisions of the UNDP General Contract Terms and Conditions:

A. Qualifications of the Service Provider

The Service Provider must describe and explain how and why they are the best entity that can deliver the requirements of UNDP by indicating the following:

- a) Profile – describing the nature of business, field of expertise, licenses, certifications, accreditations,*
- b) Business Licenses – Registration Papers, Tax Payment Certification, etc.*
- c) Latest Audited Financial Statement (for the last 3 years) – income statement and balance sheet to indicate its financial stability, liquidity, credit standing, and market reputation, etc.,*
- d) Track Record – list of clients for similar services as those required by UNDP, indicating description of contract scope, contract duration, contract value, contact references,*
- e) Certificates and Accreditation – including Quality Certificates, Patent Registrations, Environmental Sustainability Certificates, etc.*
- f) Written Self-Declaration that the company is not in the UN Security Council 1267/1989 List, UN Procurement Division List or Other UN Ineligibility List.*

B. Proposed Methodology for the Completion of Services

The Service Provider must describe how it will address/deliver the demands of the RFP; providing a detailed description of the essential performance characteristics, reporting conditions and quality assurance mechanisms that will be put in place, while demonstrating that the proposed methodology will be appropriate to the local conditions and context of the work.

⁷ This serves as a guide to the Service Provider in preparing the Proposal.

⁸ Official Letterhead/Stationery must indicate contact details – addresses, email, phone, and fax numbers – for verification purposes

C. Qualifications of Key Personnel

If required by the RFP, the Service Provider must provide:

- a) Names and qualifications of the key personnel that will perform the services indicating who is Team Leader, who are supporting, etc.,*
- b) CVs demonstrating qualifications must be submitted if required by the RFP; and*
- c) Written confirmation from each personnel that they are available for the entire duration of the contract.*

D. Cost Breakdown per Deliverable*

| SN | Deliverables [list them as referred to in the RFP] | Percentage of Total Price (Weight for payment) | Price (Lump Sum, All Inclusive) |
|-----------|--|---|--|
| 1. | Project Charter Document or Inception Report covering both Phases I and 2. | 10% | |
| 2. | Approved Report on Market Systems Assessment (Phase 1) | 10% | |
| 3. | Approved Detailed Design Document including the detailed architecture of the Backend (including the Database schema) and the Mobile Application (Phase 2) * | 5% | |
| 4. | The draft version of the full-fledged Backend and Database deployed on hosting infrastructure and submission of an approved report on the successful deployment and security audit of the system (Phase 2). | 5% | |
| 5. | Final Version of the full-fledged Backend and Database deployed on hosting infrastructure and submission of an approved report on the successful deployment of the system (Phase 2) | 5% | |
| 6. | Approved Report on Development of Mobile Application including approved demos of working versions/iterations of the mobile platform (Phase 2) | 10% | |
| 7. | The draft version of the full-fledged Mobile Application and submission of an approved report on the successful deployment of the system (Phase 2) | 10% | |
| 8. | Approved UAT Sign-Off document which testifies all user comments and feedback have been incorporated, all bugs have been corrected and security vulnerabilities and non-conformities have been fixed (Phase 2) | 10% | |
| 9. | Final Version of the full-fledged Mobile Application and Backend deployed on hosting infrastructure and submission of an approved report on the successful deployment (Phase 2) | 10% | |
| 10. | Submission of 4 SSD hard disk drives (1 Government, 1 RRA, 1 UNDP, 1 backup) containing the source code and | 5% | |

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| | user manuals for the Mobile Application as well as full online access to the server on which the source code for the Mobile Application and the Backend will be located (Phase 2) | | |
| 11. | Approved report on the training, including the training plan, training materials for users and administrators, and training sign-off (Phase 2) * | 5% | |
| 12. | Go-live report confirming software is free from vulnerabilities, fully operational and ready to be used (Phase 2) | 5% | |
| 13. | Knowledge Transfer and handing over of complete system (including the ownership of the source code) to Ministry of Blue Economy, Marine Resources, Fisheries and Shipping and any other entity (ies) as to be delegated by the client (Phase 1 and 2) (see note below) | 10% | |
| | Total | 100% | |

**This shall be the basis of the payment tranches.*

These deliverables may include international travel if service provider is not based in Mauritius.

E. Cost Breakdown by Cost Component [This is only an Example and description of activity can be customized]:

| Description of Activity | Remuneration per Unit of Time | Total Period of Engagement | No. of Personnel | Total Rate |
|-----------------------------------|-------------------------------|----------------------------|------------------|------------|
| I. Personnel Services | | | | |
| 1. Services from Home Office | | | | |
| a. Expertise 1 | | | | |
| b. Expertise 2 | | | | |
| 2. Services from Field Offices | | | | |
| a. Expertise 1 | | | | |
| b. Expertise 2 | | | | |
| 3. Services from Overseas | | | | |
| a. Expertise 1 | | | | |
| b. Expertise 2 | | | | |
| II. Out of Pocket Expenses | | | | |
| 1. Travel Costs | | | | |
| 2. Daily Allowance | | | | |
| 3. Communications | | | | |
| 4. Reproduction | | | | |
| 5. Equipment Lease | | | | |
| 6. Others | | | | |
| III. Other Related Costs | | | | |

F. Reimbursable Operational Costs – OPTIONAL

*Financial proposal (Table D. Cost Breakdown per Deliverable) should include all operational costs applicable for the **first year (Warranty)** of the complete the development of the application platform and components (BI tool, antivirus, licenses, certificates, third party modules, add-ons, tools etc.). **No hidden costs will be entertained by the Client during execution of the contract.***

*For Year 2 to Year 5, the service provider should fill the following table with a detailed breakdown of yearly operational costs, **as an option**, for the complete development of application and components.*

If funds are available, the costs may be added to the contract price at the discretion of the client, in which case, only costs mentioned in the table below would be reimbursed to the service provider upon submission of valid payment receipts before end of contract.

| Detailed Breakdown of Operational Costs | Service Provider to include Year 1 costs in Contract Price | Year 2 to Year 5: Optional | | | |
|--|--|----------------------------|--------|--------|--------|
| | Year 1 (Warranty) | Year 2 | Year 3 | Year 4 | Year 5 |
| Hosting Charges – provide details | To be Included in Contract Price | | | | |
| Licenses – provide details | To be Included in Contract Price | | | | |
| Other Operational Costs (please specify each cost as a separate line item) | To be Included in Contract Price | | | | |

[Name and Signature of the Service Provider's Authorized Person]

[Designation]

[Date]

TERMS OF REFERENCE

A. Background Information and Rationale, Project Description

The Republic of Mauritius remains vulnerable to environmental and other shocks. The United Nations Development Programme (UNDP) Mauritius and Seychelles Multi-Country Office (MCO) has applied and benefitted the “Supporting the Economic Empowerment of the Artisanal Fishing Community of the Republic of Mauritius” project from the European Union (EU) under the ECOFISH Programme. The project aims at empowering the artisanal fishers of the Republic of Mauritius in getting out of poverty by improving their economic situation through the provision of advanced technology for the identification and exploration of new fishing grounds. The action will assist the artisanal fishers in moving out of the over-exploited lagoon to more sustainable fishing grounds.

Additionally, the UNDP Mauritius and Seychelles MCO is supporting the Mauritian Government through the “Support to Resilience through Digital Transformation and Capacity Development” project, whereby UNDP is seeking to support the Republic of Mauritius to be better positioned to maintain its positive human development trajectory and achievement of the Sustainable Development Goals. These shall be achieved through firstly responding efficiently and effectively to the immediate crises; and secondly, to mitigate the medium to long term impact by leveraging national planning, financial and organizational capacities. UNDP proposes to support government and communities to better prepare for urgent and immediate action by (1) strengthening public sector efficiency through digital transformation; (2) increasing disaster response capacity through business process reengineering; and (3) promoting socio-economic and environmental resilience to shock.

The Government of Mauritius is providing grants and loans for the purchase of off-lagoon fishing vessels to artisanal fishers. The above first-mentioned project complements the government's initiative by filling a gap which prevented an essential outcome from being reached. An improved catch will lead to better economic situation for the fishers and will be followed by better social inclusion. A higher catch will also provide additional work for the youth and women who are mostly involved in post-harvest processing. The project will thus involve 3 phases:

1. Harvest: Assembly and deployment of FADs and training of fishermen in their use,
2. Post-Harvest Infrastructure: Fish Landing Station improvement, fitting of green equipment (solar panel, solar ice-making machine, rainwater harvesting system, solar chiller) and training in operation of these equipment,
3. Post-Harvest processing: Training in fish hygiene, fish processing and marketing.

Artisanal fishers have been identified as a vulnerable group. Those who normally fish inside the overfished and climate change impacted lagoons, rarely have a good catch; and the fishers who are currently going outside the lagoon to fish around normal FADs, very often lose time locating the FADs randomly. Hence, artisanal fishers either do not have a decent revenue at the end of the day or spend more on fuel by navigating long distances and getting lost outside the lagoon in the search of FADs.

As part of the solution to this problem, modern Fishing Aggregating Device (FADs) will be constructed and will be equipped with Satellites buoys which have an inbuilt GPS, a transducer to detect biomass and sensors to read sea surface temperature. The FADs will be installed in four locations around Mauritius Island and in the waters of Rodrigues Island.

Hence, a Mobile Application will be developed which would be accessible to the artisanal fisher's community via mobile phones, or tablets. The data received from the modern FADs through the satellite system will have to be displayed in a simplified version to the artisanal fishers through the Mobile Application which shall be accessible even when outside the lagoon. This will help the fishers to navigate directly to the modern FADs and have access to information regarding the presence of shoal of fishes associated with the FAD which may thus result in an efficient catch.

The features of this Mobile Application shall include the following:

- a) Easy access to local registered artisanal fishers (listed on the database only),
- b) Easy to use by local artisanal fishers (In terms of Design and User Experience),
- c) Integrate with the GPS and Biomass data system and simplify the data to a language/ graphics which will be easily understood by the fishers, and
- d) GPS and Biomass data can be saved to be used offline (especially when out in the outer lagoon).

B. Assignment objectives and phases

This assignment aims at empowering the artisanal fishers to fish outside the lagoon and around Fish Aggregating Devices (FADs) in a cost-effective manner by making use of adequate technology. A modern system of FADs equipped with satellite buoys will be installed in the open sea around Mauritius and Rodrigues Islands respectively. Relevant data from the Satellite buoys will be communicated to a server at a station of the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) for Mauritius and the Rodrigues Regional Assembly (RRA) for Rodrigues to provide necessary information on the FADs' position and the biomass underneath the FAD and other sensors' information. The data sent by the satellite buoy will eventually be transmitted to a Mobile Application accessible to fishers (as per the schema - satellite buoys > Satellite > Ministry Server > Mobile App via internet) and accessed by fishers. The Application to be developed will use local spatial information so that it can be used to assist the fishers in locating the FADs. The Application will also give the fishers the biomass calculated by the satellite buoy. The Application will be tried and tested in collaboration with the MoBEMRFS, the RRA and the fishers to ensure its user-friendliness with the aim to enable fishers to improve their catch. The specific objectives of the assignment are to:

- a) Help the fishers navigate directly and in a cost-effective manner to the FADs, and
- b) Enable the fishers to increase their daily catch through improved planning based on pre-fishing available data thus allowing improvement in fishing efficiency.

There will be 2 phases for this assignment as listed below:

- a) Market Assessment of Artisanal Fishers Mobile Application's (App) Requirements; and
- b) Development of a fisher-community user friendly mobile app with integration of a fisher database

C. Scope of work

The two phases for the assignment are detailed as follow.

Phase 1 refers to the Market Assessment of Artisanal Fishers Mobile Application's requirements. The service provider will avail the services of a Market Specialist who will be responsible for conducting a market systems assessment which should include an empirical and analytical study of the market as well as the dynamics surrounding the artisanal fishers' community in the Republic of Mauritius. The study should include the following but not limited to:

1. Situational analysis

To facilitate the concept ideation, process a best-fit solution, it will be important to carry out a situational analysis in terms of the following:

- 1a. analyze the current methodology being used by the Ministry of Blue Economy, Marine Resources, Fisheries & Shipping (MoBEMRFS) and the Rodrigues Regional Assembly (RRA) (including the concerned departments) to communicate with the artisanal fishers,
- 1b. analyze the methodology being used by artisanal fishers to locate Fish Aggregating Devices (FADs) for fishing activities,
- 1c. assess the number of artisanal fishers who can easily read and use a mobile application provided that necessary training is being given,
- 1d. assess and understand the software being used to transfer FADs location and biomass data to the relevant server within the Ministry of Blue Economy, Marine Resources, Fisheries & Shipping (MoBEMRFS) and/ or the Rodrigues Regional Assembly (RRA),
- 1e. assess and understand the backend and database being used at the level of the MoBEMRFS and/ or the RRA for data storage relevant to FADs location and biomass stock,
- 1f. any other analysis, studies etc. which will enable the consultant to avail of a detailed situational analysis in view of the next stages

2. User requirement identification

- 2a. assess the willingness of the artisanal fisher community to make use of technology to improve their fish catch,
- 2b. understand from the point of view of the artisanal fishers, what are the features that would make the mobile application user friendly with a simple interface,
- 2c. analyze the features which may be helpful to the artisanal fishers (Weather forecast, Tides information, among others),

- 2d. with the use of concept and wire diagrams of the mobile App (on paper or projected on screen), obtain initial feedback from fishers on the application layout, presentation, ease-of-navigation, intuitiveness, degree of simplicity and any other standard or custom metrics applicable for mobile Apps,
- 2e. assess the willingness for the artisanal fisher community to invest in an appropriate smartphone or any compatible device that shall bear the mobile application to be developed,
- 2f. identify constraints that may limit the usage of the mobile application by the artisanal fisher community and propose relevant solutions to overcome same,
- 2g. assess other mean for the fisher community to better make use of a mobile application to enable them to go out fishing (such as Fishers who find the system too complex can also call the server on their mobile to receive audio instructions on FADs location and associated information),
- 2h. organize continuous working sessions with the fisher and youth community that shall allow information gathering at the initial stage and then allow them to digest the outcomes from the data collection/ situational analysis/ gap analysis emanating from the user requirement identification process into concrete mobile application-oriented solutions, taking into consideration the following:
 - i. the methodology shall be statistically significant and shall be agreed by the client prior to implementation,
 - ii. the number of participants shall be recorded on a sex disaggregated basis,
- 2i. pay particular attention to the use of such system by **various categories of users** mostly on the field and the appropriate user interface(s) to meet the needs for each category. A detailed user map may be helpful in this case.

3. Concept and detailed design of the Mobile App

- 3a. **Concept research:** research similar concepts done elsewhere (regionally, internationally) and provide a brief overview of same (main points, advantages, disadvantages, positive and negative points etc.),
- 3b. **Wireframing:** based on the concept research, and initial and subsequent brainstorming sessions, produce several (at least 3) iterations of the Mob App showing the UI, functions, buttons, screens etc.,
- 3c. **Technical feasibility:** perform and show evidence of technical feasibility of the Mob App based on the wireframed design, functionalities, and layout.
- 3d. **Prototyping and testing:** following initial brainstorming and concept design, produce a first prototype of the Mob App ready for a trial run by client (prototype testing) and sample fishers. Produce a report of the prototype testing with recommended improvements etc. Iterate the prototypes as required,

- 3e. **Final prototype and interface design:** present the final prototype to the client for approval as well as interface design (this may also be done in parallel with the prototyping and testing stage above and require a few iterations),
- 3f. **Code development, testing and debugging** develop the code for the Mob App and associated back-end upgrades, databases etc. Perform several testing and trial runs of the code, as required, and provide a brief status update (in writing) to client on the performance of the Mob App, interface, database, query functions etc. You may consider releasing an initial version to a sample fisher, as well as client, for testing of the interface and functionalities. Document the process as well as the debugging phase, and
- 3g. **Final, ready-to-roll-out application:** submit the final application to the client for approval and then roll-out. Perform further testing on the live application and fine-tune/ debug as necessary during the soft launch (14 days).

4. Other tasks

- 4a. develop a most appropriate schema/flowchart about how to communicate relevant data from the FADs' location and the Biomass Database to the artisanal fishers, identifying and documenting all major data/information channels/paths and users,
- 4b. analyze existing institutional capacity and the national context for the establishment of such system,
- 4c. upgrade the FADs location and Biomass stock database to ensure a proper and smooth flow of data in from the FADs and out towards the mobile application without human intervention,
- 4d. provide necessary legal/ regulatory framework for operationalization and sustainability of such system in the local context (e.g., terms and conditions of use, privacy policy, disclaimers, eligibility criteria for registration of relevant user on the system; among others),
- 4e. recommend a marketing strategy and action plan with budgetary estimates for the system (the service provider is not expected to execute the strategy),
- 4f. analyze the different options for the management and technical maintenance of the system to ensure sustainability; and
- 4g. recommend the necessary material, human and financial resources (including operational and maintenance) required for the system to operate at its best over at least 5 years after coming into operation.

In **Phase 2**, the service provider through the Mobile Application Development Expert and System/ Cloud Engineer under the guidance of the Market Specialist shall start implementation of the core functionalities of the Artisanal Fishers Database and the Mobile Application for the Artisanal Fishers **as early as possible in the assignment and parallel to Phase 1**. As and when the market systems assessment progresses, the service provider shall draw upon the findings and recommendations of the market systems assessment, make necessary customizations, and finalize implementation of the System in close collaboration with the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS), the Rodrigues Regional Assembly (RRA), the artisanal fisher community, the

UNDP, and any other stakeholders to be identified. The collaborative approach among the various stakeholders and predominantly the artisanal fisher community and the youth must be clearly demonstrated throughout the implementation of phase 2 as is the case for phase 1. The service provider shall work in close collaboration with the winner of hackathon requested in phase 1 to ensure that their considerations are being taken on board in the development of the mobile application.

The database and mobile application shall clearly ensure the following:

- a) The Mobile Application should be based on the insight and data collected from Phase One – Market Assessment of Artisanal Fishers Mobile Application requirements,
- b) A backend and a database shall be created to capture/ input segregated data of the artisanal fishers by demographics and geographic locations among others,
- c) The artisanal fisher's database shall be accessed and operated by a limited number of key stakeholders to be identified by the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) for Mauritius and the Rodrigues Regional Assembly (RRA) for Rodrigues,
- d) Content of the database should be easy to be updated by non-developers and more specifically by relevant staff of the MoBEMRFS and the RRA,
- e) The architecture of the backend should be clear and easy for non-developers to access and update by relevant staff of the MoBEMRFS and the RRA,
- f) The database should be user friendly and have a simple interface,
- g) The database must allow linkage to an application platform which allows collected data to be synced automatically to the database,
- h) The data captured should be secured and protected from hackers,
- i) Pilot the use of the database. Following the pilot, test, debug and improve applications optimization for better performance and implement any suggestion or actions from feedback,
- j) Engagement with key users and stakeholders for gathering and documenting requirements for the system,
- k) Design a mock-up of the system (desktop version and mobile-responsive version of the Application) with special attention to User Experience (UX). The purpose of the mock-up is to verify that the system complies with the objectives and to validate navigation on desktop and mobile devices ensuring an intuitive user experience,
- l) The Application should be cloud hosted. The Service provider must provide recommendations for an appropriate cloud-based hosting infrastructure that is fit for purpose for the system taking into consideration all relevant parameters to ensure acceptable response times and round the clock availability during varying loads, especially in the event of a national lockdown,
- m) The Mobile Application should be progressive, user friendly and have a simple interface,

- n) Provision of a site map in the form of a tree structure to show the architecture of the site as described. This will be presented in schematic form with the main headings, the sub-headings and the links which unite them,
- o) Propose a most acceptable and user-friendly controlled access to a controlled number of users (predominantly the pool of artisanal fishers with their credentials loaded onto the above-mentioned artisanal fisher database),
- p) The application shall be able to transmit the geo-location of FADs to fishers and provide the data on the biomass surrounding the FADs (from the server at the MoBEMRFS for Mauritius and the RRA for Rodrigues) in a simple language that is understandable by the fishers,
- q) The Mobile App shall allow access by other mean for the fisher community to better make use of a mobile application to enable them to go out fishing (such as Fishers who find the system too complex can also call the server on their mobile to receive audio instructions on FADs location and associated information),
- r) Pilot the use of the Application. Following the pilot, test, debug and improve applications optimization for better performance and implement any suggestion or actions from feedback,
- s) Try and test the Mobile application in collaboration with the MoBEMRFS and/ or RRA and the fishers to ensure its user-friendliness,
- t) Application updates should be limited to essential features and be cost-efficient,
- u) The architecture of the back end should be clear and easy for non-developers to access and update. The service provider must advise the administrators of the System on necessary customizations on the system and workflows to ensure the requirements of key users and stakeholders are met; and
- v) Formulate a training plan and design different types of training that would be required for continuous training of stakeholders of the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) for Mauritius and the Rodrigues Regional Assembly (RRA) for Rodrigues and other stakeholders after the contractual period.
- w) The whole system (including the source code) should be transferred to MoBEMRFS. In the future, the source code of the mobile app and the backend might be released as open-source software.

The service provider must pay particular attention to the following:

- a) The selected service provider shall consult all the key stakeholders and shall have the entire responsibility to undertake the necessary actions in achieving the assignment's aims and objectives in addition to the deliverables listed in Section I of the TOR,
- b) Active engagement and consultation of key stakeholders and users is expected throughout phases one and two,

- c) The methodology used by the selected service provider should be user-centric, based on the Market Assessment and the user requirements,
- d) The selected service provider is responsible for providing training and knowledge transfer activities for phase two of this assignment,
- e) Any third-party cost implication such as hosting, licensing for cloud systems among others should be included in the proposal of the selected service provider,
- f) The proposal from the service provider should include the necessary transfer of knowledge, licenses, access to the system, dependencies, and complete working source code of the Backend, Database and Mobile Application to the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) and the Rodrigues Regional Assembly (RRA) and the transfer shall be done before the end of the contract,
- g) After completion and implementation of the System, the service provide shall monitor the database and the mobile application performance, analyze, and submit a recommendation report on how the application/ database can be further sustained and improve helping the project meet its objectives and outcome,
- h) Design and create all high-quality graphic elements and branding (logos, images, animations, page background, buttons, icons, etc.) for the mobile application,
- i) Use an iterative development methodology whereby after each development iteration, a minimum viable product of the system is demonstrated to key users and stakeholders,
- j) Specify the location, duration, and details of the hosting infrastructure (allocated disk space, available shared bandwidth, hot user link service, protection of pages and hosted applications, backup periodicity, recovery time in service interruption, among others),
- k) Provide hosting for the new system in a secured environment, installation of the new platform and associated digital resources on the hosting facility,
- l) Purchase and transfer of the domain name from the identified host,
- m) Purchase necessary licenses, security certificates, public IP address (if applicable) and any such service which are required for smooth running of the platform,
- n) Implement extensive security measures to address the Mobile Application security risks,
- o) Conduct full-fledged technical validation of the system through necessary tests to ensure the System is fit for use on the Internet including performance load tests, system tests, security and vulnerability tests among others,
- p) Conduct security audit and resolve all the vulnerabilities found before go-live with the system,
- q) Optimization of the system from time to time for better performance,
- r) Development using current technology available, including PHP, (.)NET, Java, SQL, JSON, REST and XML to develop an efficient system,
- s) Assist, and provide necessary handholding to, key users and stakeholders during user acceptance of the system in the production environment,
- t) Produce user manuals as well as training videos for all those using the system including the administrator,
- u) Specify system traffic statistics, in particular: number of visitor accesses, keywords typed by Internet users, number of visits, pages visited, geographical origin of visitors, days and time slots of visits, providers of original access,

- v) Carry out comprehensive and tailored training of trainers to equip the trainers with the skills necessary for the daily management and customization of the Application and its content (webmaster), create and generate reports in the business intelligence tool as well as to allow them to train stakeholders (sellers and buyers) in the relevant use of the system,
- w) Provide technical support to the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) and the Rodrigues Regional Assembly (RRA) on the mobile application and associated components for 12 months following the commissioning of the system. Technical support should include, inter-alia: administration of hosting infrastructure and technical component of the platform; technical assistance to designated staff of the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) and the Rodrigues Regional Assembly (RRA) for customizing content and layout in the platform; system and performance monitoring; system maintenance and optimization; identify, analyze, troubleshoot and fix issues, errors and bugs; apply upgrades, patches, bug fixes and releases; manage and track incidents and problems; perform system backup and, if required, recovery to ensure uninterrupted service; and
- x) Knowledge transfer and handing over of all components and dependencies of the mobile application to the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) and the Rodrigues Regional Assembly (RRA) including complete updated documentation, source code in working condition, source computer files (HTML pages, graphics, databases, programs, etc.) in working condition, valid licenses, administrator accounts and latest credentials, and any other information or artifact to ensure that the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) and the Rodrigues Regional Assembly (RRA) can take up the administration, management, customization and technical maintenance of the Application independently of the service provider after the contractual period. The service provider should submit the components in 4 SSD hard disk drives (1 Government, 1 RRA, 1 UNDP, 1 backup).

The service provider will be responsible for the organization, coordination of all software design, a compilation of data and timely submission of all deliverables.

D. Approach and Methodology

The bidder should submit a detailed project methodology and approach in their submission for the implementation of the project in line with the prescribed scope and objectives as well as based on accepted best practices. The bidder must also include the relevant architecture (with details of technology, software version among others), project plan and any other technical aspect of the project in the technical bid document.

The consultant should provide an implementation schedule aligning with the milestone and deliverable listed in Section I. This project's schedule shall indicate the detailed sequence of activities and the respective timeline that will be undertaken by the service provider.

E. Response to functional requirements

Bidder should complete the Functional Requirement Questions Sheets as per Annex 4 and submit same in the MS-Word Format. The proposed solution for each functional requirement should be briefly described with screenshots where possible.

Bidders should complete column C (Compliance) with 'C' for compliance and 'NC' for Non-Compliance and provide explanatory notes/remarks as indicated in the table. Attach detailed technical literature if required. **Bidders are advised that any blank in the "Compliance" Column will be treated as non-compliance to the requirement.**

F. Software License

The list of third-party software licenses such as database, application server, cloud-based system among others, required for the development and hosting of the database in phase two shall be provided to the client by the selected bidder without any cost. Given that the software will be open source, a stable and reliable version should be identified by the bidder and the source code should be provided to the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) and the Rodrigues Regional Assembly (RRA) without any royalty for use, modification, and redistribution of the original/ modified software.

G. Project documentation

The service provider is expected to submit the following deliverables during the project:

1. A project charter or inception report consisting of the following: -
 - a. A detailed Gantt chart showing milestones/major deliverables and highlighting the critical path as well as the duration for the assignment, including expected completion date(s),
 - b. A schedule detailing the timing of consultations with stakeholders,
 - c. Any other relevant section(s), document(s), process(es), literature and reference.
2. An approved report on Market Systems Assessment which includes all assessments, action plans, strategies, recommendations, and outputs defined in the scope of work for Phase 1 including the outcomes from the hackathon (s),
3. An approved Detailed Design Document including the detailed architecture of the Mobile Application and all technical elements mentioned in the scope of work for Phase 1,
4. An approved Report on the Development of the Application including approved demos of working versions/ iterations of the mobile platform,
5. An approved report on the successful deployment and security audit of the Draft version of the full-fledged Mobile Application on hosting infrastructure,
6. An acceptance test plan along with test cases and expected results traced to the requirements,

7. An approved User Acceptance Test (UAT) Sign-Off document that testifies all user comments and feedback have been incorporated, all bugs have been corrected and security vulnerabilities and non-conformities have been fixed,
8. An approved report on the successful deployment and security audit of the Final version of the full-fledged Mobile Application on hosting infrastructure,
9. 4 SSD hard disk drives (1 Government, 1 RRA, 1 UNDP, 1 backup) containing the source code and user manuals for the Application as well as full online access to the server on which the source code for the Mobile Application will be located,
10. An approved report on the training, including the training plan, training materials for users and administrators, and training sign-off,
11. A commissioning report confirming the Mobile Application is operational and has gone live,
12. A project completion report following satisfactory knowledge transfer and handing over of complete system to the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) and the Rodrigues Regional Assembly (RRA),
13. Weekly status reports on project activities (from the start of assignment until project completion (18 weeks); and
14. Monthly status reports on technical support activities following “Go-Live” (for 12 months).

H. Acceptance, Certification and Roll-out

As this project involves the development of a mobile application, the following points related to Acceptance, Certification and Go-live shall be considered:

- An acceptance test plan along with test cases and expected results traced to the requirements shall be provided by the selected service provider during the development and the same shall be accepted by the Ministry of Blue Economy, Marine Resources, Fisheries & Shipping (MoBEMRFS) and its stakeholders (including the Rodrigues Regional Assembly (RRA)),
- Any observations/feedback from the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) and its stakeholders (including the Rodrigues Regional Assembly (RRA)) related to the test plan and test cases shall be duly factored in as relevant,
- The Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) and the Rodrigues Regional Assembly (RRA) shall constitute a team of users who will facilitate the test process, but the selected service provider’s personnel shall carry out a full-fledged unit and integration tests with evidence of satisfactory test results,
- Only after successful UAT of the Application, the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) and the Rodrigues Regional Assembly (RRA) will issue a UAT Sign-off to the selected service provider,
- After UAT sign-off, training of users and successful commissioning of the platform on the proposed hosting infrastructure, the system will be declared as “Go-Live”.
- The Service Provider will have to implement measures deemed applicable from the latest OWASP guide for Mobile security and Internet of Things Top 10 Guide.

- If the system is being hosted at the Government Online Centre (GOC), the Service Provider would have to abide with the existing GOC security policies including hardening guidelines. Otherwise, the Service Provider would have to ensure patching and hardening of all applicable components (e.g. OS, Database, application with role-based access).

I. Expected outputs and deliverables

The service provider should provide high-quality services to the UNDP. They will prepare necessary deliverables, to be sent to the UNDP Project Managers. All deliverables shall be paid only after approval by the Project Steering Committee (PSC), comprising stakeholders from UNDP, various Ministries, and the Rodrigues Regional Assembly (RRA), agencies, and others, which has been set up for the implementation of this project.

The outputs, sequence of work and the corresponding target delivery are as follows: -

Table 1: List of Deliverables

| SN | Deliverable | Tentative date (T=Contract Start Date) | Fee (%) |
|----|---|--|------------|
| 1 | Project Charter Document or Inception Report covering both Phases I and 2. | T+1 week | 10% |
| 2 | Approved Report on Market Systems Assessment (Phase 1) | T+4 weeks | 10% |
| 3 | Approved Detailed Design Document including the detailed architecture of the Database and Mobile Application (Phase 2) * | T+4 weeks | 5% |
| 4 | The draft version of the full-fledged Database deployed on hosting infrastructure and submission of an approved report on the successful deployment and security audit of the system (Phase 2). | T+6 weeks | 5% |
| 5 | Final Version of the full-fledged database deployed on hosting infrastructure and submission of an approved report on the successful deployment of the system (Phase 2) | T+8 weeks | 5% |
| 6 | Approved Report on Development of Mobile Application including approved demos of working versions/iterations of the mobile platform (Phase 2) | T+10 weeks | 10% |
| 7 | The draft version of the full-fledged Mobile Application deployed on hosting infrastructure and submission of an approved report on the successful deployment of the system (Phase 2) | T+12 weeks | 10% |
| 8 | Approved UAT Sign-Off document which testifies all user comments and feedback have been incorporated, all bugs have been corrected and security vulnerabilities and non-conformities have been fixed (Phase 2). | T+13 weeks | 10% |
| 9 | Final Version of the full-fledged Mobile Application deployed on hosting infrastructure and submission of an approved report on the | T+15 weeks | 10% |

| SN | Deliverable | Tentative date (T=Contract Start Date) | Fee (%) |
|--------------|---|--|-------------|
| | successful deployment (Phase 2) | | |
| 10 | Submission of 4 SSD hard disk drives (1 Government, 1 RRA, 1 UNDP, 1 backup) containing the source code and user manuals for the Mobile Application as well as full online access to the server on which the source code for the Mobile Application will be located (Phase 2) | T+16 weeks | 5% |
| 11 | Approved report on the training, including the training plan, training materials for users and administrators, and training sign-off (Phase 2) * | T+17 weeks | 5% |
| 12 | Go-live report confirming Mobile Application is free from vulnerabilities, fully operational and ready to be used (Phase 2) | T+18 weeks | 5% |
| 13 | Knowledge Transfer and handing over of complete system to Ministry of Blue Economy, Marine Resources, Fisheries and Shipping and the Rodrigues Regional Assembly (Phase 1 and 2) (see note below) | T+18 weeks | 10% |
| Total | | | 100% |

*These deliverables may include international travel if service provider is not based in Mauritius.

Notes:

Bidders must abide by the above implementation schedule

- Payments are directly linked to deliverables,
- All reports must be submitted in an editable draft version in Word, Excel or other as well as a PDF version (for comments) and then final version, following incorporation of all comments and suggestions by the PSC before payment is effected,
- The consultants may also be requested to present the full scope of findings and recommendations to the PSC and relevant stakeholders,
- The price proposed must be in an all-inclusive fee, supported by a breakdown of costs,
- The contract price is fixed for the duration of the project; and
- Contract signature does not warrant any advance payment.

J. Workshops/ online consultations

For the assignment, workshops shall be conducted by the service provider throughout the implementation of the project for: requirement gathering, hackathon (s), etc., necessary validations and training. The workshops expenses would be borne by UNDP.

The bidder will provide a familiarization program to the earmarked resources without any extra cost. The service provider shall provide technical support on the Mobile Application for 12 months from the date of commissioning of the platform.

K. Governance and Accountability

The service provider appointed for this assignment will report to Mr. Jean Lindsay Azie, Project Manager and will be supervised by Mrs. Vichittra Purdassee, Project Manager, UNDP Mauritius Country Office and/or any other UNDP personnel, as well as the Government counterparts who will be identified in due course.

All deliverables shall be in English and submitted in an appropriate format, in MS Word and PDF as per the requirement of the Client to the following address:

Mr. Jean Lindsay Azie, Project Manager, UNDP Mauritius CO at lindsay.azie@undp.org with copy to Mrs. Vichittra Purdassee, Project Manager, UNDP Mauritius CO at vichittra.purdassee@undp.org

There shall be no security restrictions on printing/editing in the deliverables. The Consultant will have to submit all the deliverables where applicable, in draft form (in soft format - MS Word) in the first instance and should thereafter incorporate any comments the stakeholders may submit, before their finalization. Draft reports and documentation would have to be submitted at least 2 weeks before the final reports/ documentation is due so that ample time is available for review. Payment will be made only on the final deliverables, and these final deliverables should be to the satisfaction of the UNDP Country Office.

The Project Manager will be responsible for further distribution. The deliverables should be of high quality in form and substance and with appropriate professional presentation. The consultant should fully comply with the requirements of UNDP in terms of content and presentation and respect UNDP visibility guidelines since unsatisfactory performance may result in termination of the contract.

All project implementation documents such as progress reports, draft project documents, templates, preliminary and intermediate designs, layouts, specification documents, etc. shall be submitted in editable Microsoft Office Word Version and editable PDF Version, and in hard copies (4 copies) in a scale to be agreed with all stakeholders and in soft copy. The soft copy should not be secured with a password(s) to allow printing or copy and paste of extract from the reports.

L. Facilities to be provided by UNDP

The UNDP may act as a facilitator between government entities and the service provider for the organization of meetings and site visits. All transportation costs and administrative costs related to the execution of the assignment are to be borne by the service provider. In case workshops/training sessions must be organized, all costs will be borne by UNDP. No additional costs to those in the financial proposal would be borne by the UNDP.

M. Expected Duration of the Contract/ Assignment

The team will review all outputs/ deliverables and their comments shall be communicated to the consultants within 14 days of submission of the output/deliverable. The consultants will then have to consider and incorporate the comments within 2 weeks from the date of receipt of comments. The consultants will have to provide for justifications when comments are not incorporated in the output/deliverable.

N. Duty Station

The personnel assigned by the service provider could be locally based or be required to travel to Mauritius. They could be required to work onsite at the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MoBEMRFS) for this assignment or work from home, owing to social distancing/lockdown requirements (in that case, any international service provider shall ensure to have a local representative to undertake any relevant on groundwork required under the project implementation). In the latter case, they should be reachable by phone/ email/ video conference throughout the entire contract duration. The service provider should note that official hours of work are from 8:45 a.m. to 4:00 p.m. **However, the service provider may be required to work outside official hours including weekends and public holidays to monitor critical implementation phases and other issues encountered during the project implementation.**

O. Professional Qualification of the successful contractor and its key personnel

Firm's General Experience

The service provider to be awarded the contract would be expected to have at least 10 years of experience in this field.

The service provider should have experience in carrying at least 3 similar projects at the national level during the last 5 years. **Written evidence for experience claimed in the form of reference letters from the client should be provided in the technical proposal.**

Experience with Government processes, especially in the local context, would be an advantage.

Key expert qualifications and competence for assignment

At least one Market Specialist and one Mobile Application Development Expert should be fully dedicated to the assignment. The minimum qualifications of the key experts required for the assignment are as follows:

Key Expert 1 – Market Specialist

Education

At least a master's degree in Information and Communications Technology(ICT), Web Application Development or Marketing (including Digital Marketing or in a related field which is substantially relevant to the scope defined for Phase 1 of the assignment.

Experience

At least 5 years' relevant experience in similar assignments. **Written evidence for experience claimed in the form of reference letters from the client should be provided in the technical proposal.**

Skills and competencies:

- Strong leadership and planning skills.
- Strong understanding of needs and issues of non-profit companies.
- Strong analytical skills.

Language

- Excellent written and spoken French and English are required. Report writing skills are a must.

Key Expert 2 – Mobile Application Development Expert

Education

- At least a degree in Information System or Software engineering or closely related field(s).

Experience

- At least 5 years relevant experience in terms of successful design and development of responsive websites/ mobile application for the public or private sector in Mauritius and/or abroad,
- Experience in implementing at least 3 similar projects over the last 5 years (Mobile Application, Open-Source (CMS) and integration with third-party solutions). **Written evidence for experience claimed in the form of reference letters from the client should be provided in the technical proposal.**

Skills and competencies

- Strong leadership and planning skills
- Strong technical skills
- Strong understanding of IT needs and issues of institutions.
- Strong analytical skills

Language

- Excellent written and spoken French and English is required

Key Expert 3 – System/Cloud Engineer

Education

- AT least a Diploma in Information Technology or closely related field(s)

Experience

- At least 3 years relevant experience in:
 - Deployment of websites/ mobile application and related services (e.g., Apache) on public or private cloud,
 - Providing technical administrator support for content management systems e.g., WordPress, Drupal, etc.,
 - Sizing, configuration and installation of operating systems and services on servers on the cloud.
- Experience in implementing at least 3 similar projects over the last 5 years. **Written evidence for experience claimed in the form of reference letters from the client should be provided in the technical proposal.**

Skills and competencies

- Strong technical skills
- Strong understanding of IT needs and issues of institutions.
- Strong analytical skills

Language

- Excellent written and spoken French and English is required

P. Price and schedule of payments

The financial offer should be quoted as a lump sum amount, all-inclusive (professional fee, insurance, all travel costs (local and international), per diem, etc.). In general, UNDP would not accept travel costs exceeding those of an economy class ticket. Should the service provider wish to travel on a higher class they should do so using their resources.

Payments would be effected based on deliverables as per above.

The bidder should also quote for local support for a period of 5 additional years (Cost for Year 2 to Year 5 must be quoted separately and will not be part of the financial proposal).

Q. Approval

This TOR is approved by:

DocuSigned by:

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Tanzila Sankoh

Team Lead, ENVIRONMENT unit

Name and Designation:

Date of Signing: 30-May-2022

Annex 4

Development of a fisher-community user-friendly mobile app for geolocalisation of Fish Aggregating Devices (FADs) and interpretation of biomass data

| Ref | Mobile Application | Compliance (C=Comply/ NC=Not Comply) | Explanatory Note/ Remarks |
|-----|---|--|------------------------------|
| R1 | Be designed and segregated in such a way that it caters for different uses, i.e., customers, vendors, administrators among others | | |
| R2 | Be based on open-source technology | | |
| R3 | Be based on open architecture and allow for interoperability, integration, and data exchange with other systems | | |
| R4 | Be scalable to support the trade volume estimates from the market systems assessment | | |
| R5 | Overall system performance should support the trade volume transaction estimates from the market systems assessment | | |
| R6 | The system should be free from security vulnerabilities and extensive measures should be implemented to address mobile application security risks | | |
| R7 | Allow content creation and/or editing of existing site content using Open-Source Content Management System (CMS) | | |
| R8 | Content on the system must be easy to update by users of varied non-technical expertise from individual departments regularly | | |
| R9 | CMS should provide a page building and layout environment where users can select or drag and drop from a palette of page elements (or modules) to change page designs | | |
| R10 | The CMS should be extensible via third-party plug-ins, modules, libraries, etc. | | |
| R11 | The system should be database driven which is integrated with the CMS. The database should be open source. | | |
| R12 | The system should provide a pleasant experience to all users by making it easy for them to complete their tasks or find what they want in a straightforward manner. | | |
| R13 | The system should also be easy to maintain for the Ministry's and RRA's administrators and content creators, streamline business operations and increase productivity | | |

| Ref | Mobile Application | Compliance (C=Comply/ NC=Not Comply) | Explanatory Note/ Remarks |
|-----|--|--|------------------------------|
| R14 | Major components should have import and export capabilities, and APIs should be defined | | |
| R15 | Display of multilingual information in Creole, French and English | | |
| R16 | Integrated search functionalities: An effective search system integration where the user can search any content by entering text in the search box. | | |
| R17 | Facility to upload and download files | | |
| R18 | Allow for User Management via Admin Interface | | |
| R19 | Ability to create roles-based system access | | |
| R20 | Administrators should be able to gain control over the front-end content, edit, add, or delete the content of the front end through the administrative control panel | | |
| R21 | Main navigation panel: Administrator can Add / Edit / Delete menu | | |
| R22 | Provide for registration of the users | | |
| R23 | Allow for Product management and multiple product configurations by non-technical users | | |
| R24 | Ability to define workflows through an easy-to-use administrative interface | | |
| R25 | Allow for interfacing with reporting tool (open-source Business Intelligence tool to be proposed) and website analytics (e.g., Google Analytics) | | |
| R26 | Ability to automatically export anonymized data for consumption by other national portals | | |
| R27 | Ability to integrate with social media | | |
| R28 | Ability to comply with Industry standards | | |
| R29 | The Mobile Application shall be Responsive and compatible with use on mobile devices (Android, IOS and Huawei-based phones) | | |
| R30 | The application shall support navigation when viewed on a mobile device | | |
| R31 | The Mobile Application shall be built upon proven and accepted Mobile Application development standards while maintaining flexibility to easily grow and add new functionality over time and with minimal cost | | |
| R32 | The user interfaces of the Mobile Application (for all applicable types of users in the system) shall pay special attention to the use of such system by fishers who are mostly at sea | | |

| | | | |
|-----|---|--|--|
| R33 | One-year Warranty on complete Mobile Applications and components | | |
| R34 | Free upgrades, bug fixes, releases, software assurance on complete Mobile Application during the one-year Warranty | | |
| R35 | Implementation of measures deemed applicable from the OWASP Guide to Building Secure Web Applications & Web Services | | |
| R36 | Technical support on the Mobile Application and components for 12 months from the date of commissioning of the platform | | |
| R37 | Financial proposal to include all operational costs for the first year (Warranty) of the complete Mobile Application and components. No hidden costs would be entertained by the client. | | |