REQUEST FOR PROPOSAL (RFP)

To: All Interested Bidders	DATE: January 15, 2021
	REFERENCE: **RFP/UNDP/GOLD-ISMIA/117572/003/2021 - Development of Mobile Application and Web Portal Database for Inventory of the Mercury Avoided from the ASGM Sector**

Dear Sir / Madam:

The United Nations Development Programme (UNDP) hereby invites you to submit a Proposal to the Request for Proposal **RFP/UNDP/GOLD-ISMIA/117572/003/2021** – ***Development of Mobile Application and Web Portal Database for Inventory of the Mercury Avoided from the ASGM Sector***.

A bidder's conference will be held on:
Date/Time : Thursday, 21 January 2021 at 14.00 hour (GMT +7)
Place : https://undp.zoom.us/meeting/register/tZUld-ioqDIpG9ZgnhzMmKprpLw4DLZLTD2J
Meeting ID : 818 0106 9312
Password : 388027

Detailed Terms of Reference as well as other requirements are listed in the RFP available on UNDP ATLAS e-Tendering system" (https://etendering.partneragencies.org) Event ID: **0000008306**

Your offer, comprising of a Technical and Financial Proposal, should be submitted in accordance with RFP requirements, through UNDP ATLAS e-Tendering system and by the deadline indicated in https://etendering.partneragencies.org

NOTE! The **Technical Proposal and Financial Proposal** files **MUST BE COMPLETELY SEPARATE** and **uploaded separately in the system and clearly named** as either **"TECHNICAL PROPOSAL" or "FINANCIAL PROPOSAL"**, as appropriate. Each document shall include the Proposer's name and address.

The file with the **"FINANCIAL PROPOSAL"** must be **encrypted with a password** so that it cannot be opened nor viewed until the Technical Proposal has been found to be pass the technical evaluation stage. Once a

Technical Proposal has been found to be responsive by passing the technical evaluation stage, UNDP shall request the Proposer to submit the password to open the Financial Proposal.

The Proposer shall assume the responsibility for not encrypting the Financial Proposal. **NOTE: DO NOT ENTER BID AMOUNT IN THE SYSTEM, INSTEAD ENTER THE NUMBER 1. Failed to meet this requirement, proposal will be rejected**

In the course of preparing and submitting your Proposal, it shall remain your responsibility to ensure that it is submitted into the system by the deadline. The system will automatically block and not accept any bid after the deadline. In case of any discrepancies, the deadline indicated in the system shall prevail.

Kindly ensure that supporting documents required are signed and stamped and in the .pdf format, and free from any virus or corrupted files and the **FINANCIAL PROPOSAL IS PASSWORD PROTECTED**. **Failed to meet this requirement, proposal will be rejected**

NOTE: The file name should contain only Latin characters (No Cyrillic or other alphabets.).

You are kindly requested to indicate whether your company intends to submit a Proposal by clicking **"Accept Invitation"** but not later than **21 January 2021.** If this is not the case, UNDP would appreciate indicating your reason, for our records.

If you have not registered in the system before, you can register by logging in using:

Username: event.guest
Password: why2change

The step by step instructions for registration of bidders and quotation submission through the UNDP ATLAS e-Tendering system is available in the attached "Instructions Manual for the Bidders". Should you require any training on the UNDP ATLAS e-Tendering system or face any difficulties when registering your company or submitting your quotation, please send an email to agneta.silvia@undp.org and yusef.millah@undp.org.

Please note that ATLAS has following minimum requirements for password:

1. Minimum length of 8 characters;
2. At least one capital letter; and
3. At least one number.

New proposer registering for the first time, the system will not accept any password that does not meet the above requirement, and thus registration cannot be completed.

For existing vendor whose current password does not meet the above-mentioned password requirements, the system will prompt you to change your password upon signing in. Please change your password in accordance with the above-mentioned password requirements to be able to login to the system.

The user guide and video are available to you in the UNDP public website in this link: http://www.undp.org/content/undp/en/home/operations/procurement/business/procurement:notices/resources/. You can also access the instruction from youtube with link: https//www.youtube.com/watch?v=Trv1FX6reu8&feature=youtu.be.

You are advised to use Internet Explorer (Version 10 or above) to avoid any incompatibility issues with the re-tendering system.

No hard copy or email submissions will be accepted by UNDP.

UNDP looks forward to receiving your Proposal and thanks you in advance for your interest in UNDP procurement opportunities.

Sincerely yours,

For ***Martin Stephanus Kurnia***
Head of Procurement Unit
1/15/2021

Annex 1

Description of Requirements

Context of the Requirement	Development of Mobile Application and Web Portal Database for Inventory of the Mercury Avoided from the Artisanal and Small-Scale Gold Mining Sector
Implementing Partner of UNDP	The Ministry of Environment and Forestry (*Kementerian Lingkungan Hidup dan Kehutanan*/KLHK) and the Agency for the Assessment and Application of Technology (*Badan Pengkajian dan Penerapan Teknologi*/BPPT)
Brief Description of the Required Services[1]	Please see Annex 3 – Term of Reference
List and Description of Expected Outputs to be Delivered	Please see Annex 3 – Term of Reference
Person to Supervise the Work/Performance of the Service Provider	UNDP National Project Manager of GOLD-ISMIA in coordinating with MoEF and BPPT
Frequency of Reporting	Please see Annex 3 – Term of Reference
Progress Reporting Requirements	Please see Annex 3 – Term of Reference
Location of work	☒ At Contractor's Location, if required, for technical works specifically indicated in the proposal
Deadline of Submission	Please refer to the e-tendering system
Expected duration of work	6 (six) months
Target start date	01 April 2021
Latest completion date	29 October 2021
Travels Expected	Below are the travel plans recommended by the Project, but the Bidder may propose differently depending on the proposed approach and methodology: 1 time travel to Minahasa Utara and spend minimum 2 days in the project location and 2 days for travel (duty station – Minahasa Utara – duty station).

[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.*

	Note: Participants from Government will be facilitated by the Consultant (incl. cost of transportation, accommodation and lumpsum using *standard biaya umum* as the benchmark).
Special Security Requirements	☒ Comprehensive Travel Insurance
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	☒ Required
Names and curriculum vitae of individuals who will be involved in completing the services	☒ Required
Currency of Proposal	☒ United States Dollars ☒ **Local Currency for Local Bidders is a must**
Value Added Tax on Price Proposal[1]	☒ must be exclusive of VAT and other applicable indirect taxes
Validity Period of Proposals *(Counting for the last day of submission of quotes)*	☒ 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	☒ Not permitted

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

Payment Terms[1]

Deliverable/Outputs	Estimated Due Date	Schedule of Payments	Amount
Phase 1 Deliverable 1 – upon completion of; Final detailed work plan accommodating the results of relevant consultations, field visit, FGD and discussions.	15 May 2021	Within 4 weeks upon submission and approval of the GOLD-ISMIA Project Management Unit	30%
Phase 2 Deliverable 2 – upon completion of; 1. Data Report consisting of: a. Collection of primary and secondary data b. FGD and field survey report 2. System Analysis; 3. System Design; 4. Mockup of the Mobile Application (both in Bahasa Indonesia and English); 5. Mockup of the Web Portal Database both in Bahasa Indonesia and English).	30 July 2021	Upon approval from the GOLD-ISMIA Project Management Unit	50%
Phase 3 Deliverable 3 – upon completion of; Implementation of Mercury Reduction Mobile Application and WebPortal Application to support the mercury reduction monitoring (a source code is submitted to KLHK).	30 September 2021	Upon approval from the GOLD-ISMIA Project Management Unit	20%

[1] *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.*

Person(s) to review/inspect/ approve outputs/completed services and authorize the disbursement of payment	Project Management Unit (KLHK, BPPT dan UNDP)
Type of Contract to be Signed	☒ professional service contract
Criteria for Contract Award	☐ Lowest Price Quote among technically responsive offers ☒ Highest Combined Score (based on the 70% technical offer and 30% price weight distribution) ☒ 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.
Criteria for the Assessment of Proposal	**Technical Proposal (70%)** ☒ Expertise of the Firm 20 % ☒ Methodology, Its Appropriateness to the Condition and Timeliness of the Implementation Plan 30 % ☒ Management Structure and Qualification of Key Personnel 50 % ***NOTE: Only bidder(s) who received minimum score of 70 on the technical score will be requested for password to open the financial proposal*** **Financial Proposal (30%)** To be computed as a ratio of the Proposal's offer to the lowest price among the proposals received by UNDP.
UNDP will award the contract to:	☒ One and only one Service Provider ☐ One or more Service Providers, depending on the following factors: *[Clarify fully how and why will this be achieved. Please do not choose this option without indicating the parameters for awarding to multiple Service Providers]*
Contract General Terms and Conditions[1]	☐ General Terms and Conditions for contracts (goods and/or services) ☒ General Terms and Conditions for de minimis contracts (services only, less than $50,000) Applicable Terms and Conditions are available at: http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html

[1] *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.*

Annexes to this RFP[1]	☒ Form for Submission of Proposal (Annex 2) ☒ Detailed TOR (Annex 3) ☐ Others[2] *[pls. specify]*
Contact Person for Inquiries (Written inquiries only)[3]	***Yusef Saiful Millah and Agneta Silvia*** *Procurement Unit* *yusef.millah@undp.org; agneta.silvia@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.
Other Information *[pls. specify]*	▪ Format: PDF files only ▪ File names must be maximum 60 characters long and must not contain any letter or special character other than from Latin alphabet/keyboard. ▪ All files must be free of viruses and not corrupted. ▪ Max. File Size per transmission: N/A

[1] *Where the information is available in the web, a URL for the information may simply be provided.*
[2] *A more detailed Terms of Reference in addition to the contents of this RFP may be attached hereto.*
[3] *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.*

Annex 2

FORM FOR SUBMITTING SERVICE PROVIDER'S PROPOSAL[1]

(This Form must be submitted only using the Service Provider's Official Letterhead/Stationery[2])

[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 of 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, Certificate of Latest Tax Payment, Tax Registration Certificate etc.
c) Latest Audited Financial Statement – 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) 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.

---

[1] *This serves as a guide to the Service Provider in preparing the Proposal.*
[2] *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***

No	Deliverables *[list them as referred to in the RFP]*	Percentage of Total Price *(Weight for payment)*	Price *(Lump Sum, All Inclusive)*
1	**Phase 1** Deliverable 1 – upon completion of; Final detailed work plan accommodating the results of relevant consultations, field visit, FGD and discussions.	30%	
2	**Phase 2** Deliverable 2 – upon completion of; 1. Data Report consisting of: a. Collection of primary and secondary data b. FGD and field survey report 2. System Analysis; 3. System Design; 4. Mockup of the Mobile Application (both in Bahasa Indonesia and English); 5. Mockup of the Web Portal Database both in Bahasa Indonesia and English).	50%	
3	**Phase 3** Deliverable 3 – upon completion of; Implementation of Mercury Reduction Mobile Application and WebPortal Application to support the mercury reduction monitoring (a source code is submitted to KLHK).	20%	
	Total	100%	

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

E. **Cost Breakdown by Cost Component *[This is only an Example]*:**

Description of Activity	Remuneration per Unit of Time (USD/IDR)	Total Period of Engagement	No. of Personnel	Total Rate (USD/IDR)
I. Personnel Services				
1. Team Leader (System Analyst)		75	1	
2. Mobile Application Developer for Android		70	1	
3. Web Portal Developer		70	1	
4. Database Specialist		70	1	
5. Illustrator Specialist		65	1	
6. Application Operator		75	1	
7. Administrative and Financial Assistant		75	1	
II. Travel Expenses to: (please give the detail breakdown of cost component)				
Minahasa Utara		Min. 4 days (2 days in location and 2 days for travelling days)	5	
III. Related Meetings				
IV. Other Cost (if any, please specify in detail)				
TOTAL				

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

Annex 3

Term of Reference (TOR)
Development of Mobile Application and Web Portal Database for Inventory of the Mercury Avoided from the Artisanal and Small-Scale Gold Mining Sector

II. Background Information

Artisanal and Small-scale Gold Mining (ASGM) is the largest global source of anthropogenic mercury releases into the environment (35%)[10]. Mercury can travel long distances, contributing to global mercury pollution and contaminating the world's ecosystems and fisheries. Exposure to mercury may cause serious health problems, and it is a particular threat to the development of the child in utero and early in life[11]. Phasing-out mercury from the ASGM sector is therefore of the utmost importance. The ASGM sector is, meanwhile, a very important source of jobs and livelihoods, accounting for about 17-20% of the world's annual gold production[12] with 15 million people directly participating in ASGM activities[13] and another 100 million depending on ASGM for their livelihoods.

In the above context, UNDP and the Government of Indonesia are in a five-year partnership to address the issues of ASGM in Indonesia through the implementation of Global Environment Facility – Global Opportunities for Long-term Development of Artisanal and Small-scale Gold Mining Sector (GEF-GOLD): Integrated Sound Management of Mercury in Indonesia's ASGM (hereinafter referred to as "GOLD-ISMIA") Project. The GOLD-ISMIA Project Document (Pro-Doc) was signed on 5 September 2018 and the 1st Authorized Spending Limit (ASL) was received on Monday, 29 October 2018. The Ministry of Environment and Forestry (*Kementerian Lingkungan Hidup dan Kehutanan/*KLHK*)* and the Agency for the Assessment and Application of Technology (*Badan Pengkajian dan Penerapan Teknologi/*BPPT) are the Implementing Agencies of this Project.

The main objective of the GOLD-ISMIA Project is to reduce/eliminate mercury releases from the Indonesian ASGM sector through four (4) components, namely:

[10] UNEP Global Mercury Assessment (2013)
[11] WHO Fact Sheet No. 361 (2013)
[12] Estelle Levin Limited (2014)
[13] UNEP (2013) The Negotiating Process: http://www.unep.org/hazardoussubstances/Mercury/Negotiations/tabid/3320/Default.aspx

- Component 1: Strengthening institutions and the policy/regulatory framework for mercury-free ASGM;
- Component 2: Establishing financing lending arrangements to provide loans for mercury-free processing equipment;
- Component 3: Increasing the capacity of mining communities for mercury-free ASGM through the provision of technical assistance, technology transfer and support for formalization; and,
- Component 4: Raising awareness and disseminating best practices and lessons-learned on mercury phase-out in the ASGM sector.

In particular, the Project will support six (6) ASGM communities in Indonesia to reduce mercury use by at least 5 metric tonnes/year starting in year three (3) of the project, which over the life-span of the project will result in a mercury release reduction of at least 15 tonnes. The 6 ASGM communities are as follows:

1. Kecamatan Kokap, Kabupaten Kulon Progo, Provinsi Daerah Istimewa Yogyakarta;
2. Kecamatan Sekotong, Kabupaten Lombok Barat, Provinsi Nusa Tenggara Barat;
3. Kecamatan Sumalata Timur, Kabupaten Gorontalo Utara, Provinsi Gorontalo
4. Kecamatan Dimembe, Kabupaten Minahasa Utara, Provinsi Sulawesi Utara;
5. Kecamatan Singigi, Kabupaten Kuantan Singingi, Provinsi Riau
6. Kecamatan Obi, Kabupaten Halmahera Selatan, Provinsi Maluku Utara

Inventory of the Mercury Use/Release Reduction Achieved by the Project

Coincide with the target of mercury reduction by 15 tonnes, the Project is required to prepare a report on the amount of mercury-free gold produced and the reduction in mercury use/releases achieved by the mining groups supported by the Project. As part of the Project Output 3.1.29, the said report shall be submitted as the time of the Mid-Term Review (MTR) in 2021 and the Terminal Evaluation (TE) in 2023.

In estimating ASGM mercury use, O'Neill and Telmer (2017)[14] list out 4 categories for the estimation, as follows:

1. Consult official mercury trade documents;
2. Interview mercury sellers;
3. Interview mercury users (processing centre workers and owners); and,

[14] *Estimating Mercury Use and Documenting Practices in Artisanal and Small-Scale Gold Mining (ASGM).* Geneve, Switzerland: UN Environment. ISBN 978-0-9939459-8-4.

4. Estimate gold production and apply a mercury-to-gold ratio (Hg:Au).

With the mercury trade is illegal in Indonesia, the trade statistics may not be a useful starting point. Likewise, due to the secretive nature of the mercury trade in the fields, finding mercury sellers and users who are willing to be interviewed are not easy. In this context, the Project views that application of the Hg:Au ratio is the best approach.

Application of Mercury-to-Gold Ratio

The mercury used for a specific unit or region can be estimated, should the following two (2) statistics are known[15]:

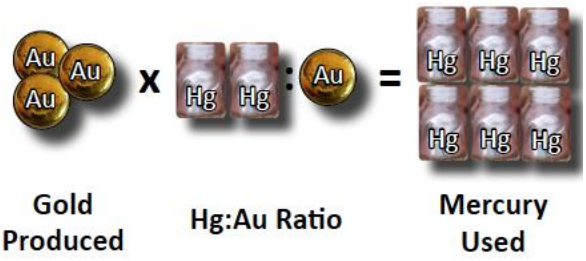
1. 

Gold Production: amount of gold produced in a specific amount of time (e.g., grams of gold produced annually)

2. 

Mercury-to-Gold Ratio: The typical amount of mercury, in grams, used to produce one gram of that gold. This ratio is specific to the processing method used to produce the gold.

The amount of mercury used to produce that gold can be yielded by multiplying the two numbers, as described below:



Within the above approach, the Project conducted a field research in 2019 covering four (4) villages within the project locations (https://goldismia.org/sites/default/files/2020-04/Fact%20Sheet%20-%20WG3.pdf). The research reported that from these locations:

1. A total of 34,104 tonnes ore processed per year for which 852.6 tonnes Hg were used. Based on the mass balance calculations, 99.35% of the Hg used is recovered and re-used from which it can be calculated that 5.54 tonnes Hg lost per year in these locations.
2. From the 34,104 tonners of ore processed, the total gold produced was 0.87 tonnes, for an average gold grade of 25.4 g/tonne.

[15] *Estimating Mercury Use and Documenting Practices in Artisanal and Small-Scale Gold Mining (ASGM).* Geneve, Switzerland: UN Environment. ISBN 978-0-9939459-8-4.

Applying the Hg:Au ratio, it can be estimated that the ratio of Hg released (5.54 tonnes) to gold produced (0.87 tonnes) is 6.857 to 1. This means that for each gram of gold produced, nearly 7 grams of Hg is released to environment. This data analysis agrees with internationally published case studies, among which is Veiga et al. (2009)[16] stated that based on field observations in Indonesia, '*when Hg is used inside ball mills to amalgamate the whole ore, the amount of Hg lost is at least 10 times the amount of gold produced.'*

Moving forward from the said field research, the Project aims to develop a mobile application and a web portal database through which the estimation of the mercury avoided from the Hg-free processing units within the project locations can be monitored in systematic way and on regular basis. The mobile application will allow the Project collects the site-specific variables from the owners of processing units on a daily basis. These variables include number of *tong*[17], average *tong* capacity, number batch processed and gold produced per *tong*. Meanwhile, the web portal database will assist the Project estimate the total Hg avoided from a specific site or region (i.e., at the levels of extraction unit, processing unit, ASGM site, region or country). The mobile application and web portal database shall be presented both in *Bahasa Indonesia* and English.

In light of the above, the Project will invite a Call for Proposal in the process of developing the mobile application and web portal database for inventory of the Hg avoided with technical specifications as stated below.

III. Objective

To support the inventory of mercury avoided from non-mercury gold processing units operated in the ASGM sector through development of mobile application and web portal database.

IV. Expected outputs:

1. The mobile application shall provide the following menu (at the minimum):
    a. name of the *tong* owner;
    b. site location (village);
    c. number of *tong* operating on that day;

[16] *Mill leaching: a viable substitute for mercury amalgamation in the artisanal gold mining sector?*. Journal of Cleaner Production. 17:1373-1381.
[17] 'Tong' is a traditional term used by ASG miners in Indonesia, referring to a part of non-mercury gold processing equipment.

d. capacity of each *tong* (per sack);
e. number of batch processed on that day;
f. gold produced per *tong* resulting from that process; and,
g. gold concentration and method to define the concentration (e.g., pen, %, carrat)

2. From the site-specific variables collected through the mobile application, the web portal database shall be able to aggregate and convert the following information (at the minimum):
    a. Total number of *tong* owners in a specific site or region (i.e., extraction unit, processing unit, ASGM site, region or country);
    b. Total number of *tong* operated in a specific site or region;
    c. Total ore processed within a specific site or region;
    d. Total gold production from a specific site or region;
    e. Gold concentration in a specific site or region, including the method in defining the concentration; and,
    f. Total Hg avoided from a specific site or region.

    The database shall be accompanied with a system by which the verification process of the data collected can be done. The system of verification process will be developed during the contract period.

3. Data Script Programming (DSP) and Source Code. In coordination with the GOLD-ISMIA Project Management Unit, the DSP and Source Code shall be submitted to the Directorate General of Solid Waste, Hazardous Waste and Hazardous Substance Management, Ministry of Environment and Forestry (MoEF) as the National Secretariat of Minamata Convention.

4. User manual books for both the mobile application and database.

5. Reports:
    a. Inception report which shall include working plan (including fieldwork) and time schedule, updated methodology in database collection, application of program design, mockup of the mobile application and web portal database, analysis process;
    b. Preliminary report for feedback from the Project Management Unit and relevant parties; and,
    c. Final report which shall accommodate feedbacks from relevant parties whenever necessary.

V. Scope of works

Under the supervision of the GOLD-ISMIA Project Management Unit, the selected company/institution shall carry out the following works:

Phase 1

1.1. Consultations with project team and other relevant resource persons, as well as thorough review of relevant literatures and studies/surveys to gather background information. Literature review may be conducted to key documents (i.e., project documents, GOLD-ISMIA related reports/articles/news, previous baseline survey tools and reports).

1.2. Field visit to Minahasa Utara to have a better sense of the ASGM gold processing units/activities. The visit will involve 1 representative of each BPPT and MoEF and 3 GOLD-ISMIA Focal Points.

1.3. Focus Group Discussion (FGD) involving the Project Management Unit and the Technical Advisory Committee for the following aims:

- Identify reference or site-specific variables for the inventory of on mercury reduction inventory
- Identify the verification process for the data collected
- Identify the data variables to be aggregated in the inventory database
- Agree upon detail information that need to be inserted in the application
- Identify the scenario of database hand-over to the MoEF

1.4. Finalization of the methodology for data collection after discussion with the Project Management Unit Team.

1.5. Submission of detailed work plan within 4 weeks of signing contract by both parties.

Phase 2

2.1. Identification of common agreement on the standards used for data conversion in the database, including kilograms per sack of ore, Hg: Au ratio, and gold purity (in % or carrat).

2.2. Development of system analysis and design which process data into information so that the characteristics of the data can be understood and useful for solutions to problems. This system shall include, among others, the standardized verification process for the data collected.

2.3. Development of draft mock-up mobile application and web portal database both in *Bahasa Indonesia* and English).

Phase 3

3.1. Finalization of the system design:

a. Interactive and real time applications;
b. Easy user interface;
c. Mock-ups of the mobile application and web portal database
d. Server implementation :
    - The application system can be placed on a virtual based server with an open source operating system
    - The infrastructure has high scalability, both core cpu, memory and storage, so that it can be adapted to the needs of implementing system applications.
    - The application system is placed in a Government Cloud service provider which is strategically located and has layered physical security.
    - Has 3 sites, namely Primary, Backup and DRC sites that support guaranteed application system availability.
    - Has 3 interconnection localloop connections IX and IIX that support guaranteed application system availability.
    - Supported by certified Data Center managers (CDCP, CDCS, CEH, CDFOM, CCNA)
    - The cloud service data center has ISO 9001 certification to support service quality assurance, has ISO 27001 to support the assurance of information security of partner services (particularly Data Center information security) and has a Data Center Rated 3 TIA 942 Design / Implementation / Operation certification or similar certification as proof of service assurance.
e. The server provided by BPPT; and,
f. Low maintenance

3.2. Development of user manual books for the mobile application and the web portal database

3.3. Implementation of:

a. Trial (through FGD and/or Workshop).
b. Launch/Go Live
c. Submit the Source Code to BPPT.
d. Evaluate the application and input from users and stakeholders, UNDP, KLHK and BPPT and submit the report in English and Indonesian.
e. Warranty for the Bug Fixing until 2025.

VI. Deliverables and Schedule of Payments

All forms of reports shall be developed both in Bahasa Indonesia and English. All reports shall be presented first to the Project Management Unit for inputs and comments to be further incorporated into the final reports. A file storage containing the final reports including the editable version, all presentations, photos and videos, all data and calculations, and simulation results (if available).

The list of deliverables and schedule of payments is as follows:

Deliverable/Outputs	Duration (months)	Estimated Due Date	Schedule of Payments	Amount
Phase 1 – Deliverable #1: Final detailed work plan accommodating the results of relevant consultations, field visit, FGD and discussions.	1	15 May 2021	Within 4 weeks upon submission and approval of the GOLD-ISMIA Project Management Unit	30%
Phase 2 – Deliverable #2, containing: 1. Data Report consisting of: a. Collection of primary and secondary data b. FGD and field survey report 2. System Analysis; 3. System Design; 4. Mockup of the Mobile Application (both in Bahasa Indonesia and English); 5. Mockup of the Web Portal Database both in Bahasa Indonesia and English).	4	30 July 2021	Upon approval from the GOLD-ISMIA Project Management Unit	50%
Phase 3 – Deliverable #3, Final report: Implementation of Mercury Reduction Mobile Application and WebPortal Application to support the mercury reduction monitoring (a source code is submitted to BPPT)	1	29 October 2021	Upon approval from the GOLD-ISMIA Project Management Unit	20%

VII. Period of the work

The development of the works will be conducted within 6 months (April – October 2021) after the contract has been signed through several meetings (brainstorming meetings/FGD) and workshop, desk study, field study, etc. The trial process of mobile application and web portal database will be conducted with the relevant Parties during the manufacturing period.

VIII. Qualifications of the Consultant Team

a. The selected company/institution shall meet the following requirements:

a. Having at least 5 relevant projects within the last 10 years in building systems and applications;
b. Having experience in projects and programs in Indonesia;
c. Having experience in managing projects with National and International Organizations or governments;
d. Having experience in developing mobile and web-based information architecture and design using Android and UI design principles, patterns and best practices; and,
e. Having experience in developing web portal using open-source platform.

b. The list of personnel and qualifications:

1. Team Leader (System Analyst) (1 person, 75 days of engagement);
2. Mobile Application Developer for Android (1 person, 70 days of engagement);
3. Web Portal Developer (1 person, 70 days of engagement);
4. Database Specialist (1 person, 70 days of engagement);
5. Illustrator Specialist (1 person, 65 days of engagement);
6. Application Operator (1 person, 75 days of engagement); and,
7. Administrative and Financial Assistant (1 person, 75 days of engagement).

Personnel Qualifications:

1. Team Leader (System Analyst)

Qualification:

a. Minimum 10 years of working experience for Bachelor Degree Graduate or 8 years of working experience for Master Degree Graduate, related to Computer Science or Information Technology or equivalent experience;
b. Has experience as a System Analyst.
c. Has experience with projects related information system on collection of site-specific variables

calculated from the site data;

d. Has experience in managing projects related to stakeholders in government;

Competency:

a. Professionalism, integrity and commitment to project demands;
b. Ability to motivate and shape the scope of teamwork in supporting the achievement of goals;
c. Confidence in the ability to accept responsibility and accountability for decision making and action;
d. Creative and innovative in deconstructing and providing solutions to related problems;
e. Ability to work in a team and individually;
f. Proficiency in English, speaking and writing. Consultants must have the ability to write reports, make presentations and to provide trainings etc. in English; and
g. Excellent time management capabilities, with the ability to deliver high-quality results in a timely manner.

2. Mobile Application Developer for Android

Qualification:

a. Minimum Bachelor Degree majoring in Information and Technology, Information System, Computer Science or related field of study;
b. Having at least 3 years of experience in the development of mobile application
c. Having experience in React Native, Android, Kotlin, Java, JavaScript, MySQL, PostgreSQL

Competency:

a. Professionalism, integrity and commitment to project demands;
b. Being confident in the ability to accept responsibility;
c. Being able to collaborate in teams;
d. Having good understanding of Hardware, Software and devices on the Server; and,
e. Having good understanding of Remote Server.

3. Web Portal Developer

Qualification:

a. Minimum Bachelor Degree majoring in Information and Technology, Information System, Computer Science or related field of study;
b. Having at least 3 years of experience in web application using PHP, HTML, JavaScript and AJAX
c. Having experience in SQL query command, and MySQL, PostgreSQL systems

Competency:

a. Professionalism, integrity and commitment to project demands;
b. Being confident in the ability to accept responsibility;
c. Being able to collaborate in teams;
d. Having good understanding of Hardware, Software and devices on the Server; and,
e. Having good understanding of Remote Server.

4. Database Specialist

Qualification:

a. Minimum Bachelor Degree majoring in Information and Technology, Information System or related field of study;
b. Having at least 6 years of experience in the development of application software and the like; and
c. Having good understanding of Hypertext Preprocessor (PHP), Laravel Framework/Android/Swift programming and MySQL/PostgreSQL database.

Competency:

a. Professionalism, integrity and commitment to project demands;
b. Being confident in the ability to accept responsibility;
c. Being able to collaborate in teams;
d. Having good understanding of Hardware, Software and devices on the Server;
e. Having good understanding of Remote Server;
f. Having the ability to manage the database, in backing up and restoring; and,
g. Being able to stand by when there is a maintenance request on the Server.

5. Illustrator Specialist

Qualification:

a. Minimum Bachelor Degree in any relevant major study; and,
b. At least 3 years of experience as an illustrator or graphic designer for application developer.

Competency:

a. Professionalism, integrity and commitment to project demands;
b. Having good understanding of the Android application and picture illustration application;
c. Familiar with and able to use drawing tablets and digital illustration software. Popular software programs for professional illustration include Adobe Illustrator, Adobe Photoshop, and Corel Draw;
d. Being able to work under pressure and meet deadlines; and,

e. Having strong commitment to allocate his/her working time whenever maintenance works is needed.

6. Mobile Application Operator

Qualification:

a. Minimum Bachelor Degree in any relevant major study, and,
b. Having at least 3 years of experience in the field of trial or application trial or similar area.

Competency:

a. Professionalism, integrity and commitment to project demands;
b. Having good ability to communicate with audience in explaining on how the applications work;
c. Having good ability to work within a team or individually;
d. Having good understanding of the Android application; and,
e. Having strong commitment to allocate his/her working time whenever maintenance works is needed

7. Administrative and Financial Assistant

Qualification:

a. Minimum Bachelor Degree or higher in any relevant major study;
b. Minimum 5 years of demonstrable experience in administrative works related to IT projects

Competency:

a. Professionalism, integrity and commitment to project demands;
b. Excellent time management skills, with an ability to deliver high-quality outputs on time; and
c. Preferably good knowledge of mining communities.

IX. Institutional Arrangement

The selected company/institution will work closely with the GOLD-ISMIA Project Management Unit (i.e., UNDP Environment Unit, Ministry of Environment and Forestry and BPPT). During the contract period, the PMU may invite relevant resource persons while reviewing the deliverables. In addition, the selected company/institution is responsible for timely submission of the expected deliverables according to the proposed timeline. Each deliverable shall receive a technical clearance from the PMU that is based in Jakarta.

X. Appendices

APPENDIX 1: TIMELINE

APPENDIX 2: LIST OF MINIMAL PROPOSED MEETING ACTIVITIES AND TRAVELS

*****