



REQUEST FOR PROPOSAL (RFP) AND Re-ADVERTISEMENT

NAME & ADDRESS OF FIRM	DATE: October 21, 2021
	REFERENCE: RFP-BD-CXB-2021-006

Dear Sir / Madam:

We kindly request you to submit your Proposal for Hiring a consultancy firm to conduct Environmental Impact Assessment (EIA) for sanitary landfill and other solid waste facilities in camps and host communities, Teknaf and Ukhia Upazila, Cox's Bazar District under Solid Waste Management (SWM) Project.

Proposals shall be submitted on or before 4.30 p.m. (local time) on Sunday, November 07, 2021

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

Proposals may be submitted on or before the deadline indicated by UNDP in the e-Tendering system. Bids must be submitted in the online e-Tendering system in the following link:

<https://etendering.partneragencies.org>; using your username and password. If you have not registered in the system before, you can register now by logging in using

Username: event.guest

Password: why2change

and follow the registration steps as specified in the system user guide.

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

You are kindly requested to indicate whether your company intends to submit a Proposal by clicking on "Accept Invitation" in the system.

In the course of preparing and submitting your Proposal, it shall remain your responsibility to ensure that it submitted into the system by the deadline. The system will automatically block and not accept any bid after the deadline. Kindly ensure attaching the required supporting documents (*with file name less than 60 characters*) in pdf format which must be free from any virus or corrupted files. Proposals that are received by UNDP after the deadline indicated above, for whatever reason, shall not be considered for evaluation.

The Financial Proposal and the Technical 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 Proposal has been found to pass the technical evaluation stage. Once a Proposal has been found to be responsive by passing the technical evaluation stage, UNDP shall request via email the Proposer to submit the password to open the Financial Proposal. The Proposer shall assume the responsibility for not encrypting the financial proposal.

PLEASE DO NOT PUT THE PRICE OF YOUR PROPOSAL IN THE 'LINE ITEMS' IN THE SYSTEM. INSTEAD PUT 1 AND UPLOAD THE FINANCIAL PROPOSAL AS INSTRUCTED ABOVE.

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 as a result 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 not awarded a Purchase Order or Contract in a competitive procurement process. In the event that 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/unsccl/conduct_english.pdf

Thank you and we look forward to receiving your Proposal.

Sincerely yours,


Krishna Raj Adhikari
Senior Operations Manager,
UNDP Bangladesh
21 Oct-2021

Description of Requirements

Context of the Requirement	As a result of the Rohingya refugee influx to Bangladesh, the population of two Upazilas (sub district) of Ukhia and Teknaf in the southern part of Cox's Bazar has risen to around 1.5 million people. This has strongly contributed to existing health and environment challenges, including underfunded and under resourced solid waste management (SWM) services. It is estimated that over 10,000 ton or around 22,000 cubic meter of waste per month is generated in the two Upazilas which do not have a functioning SWM system. Solid waste discarded by refugee and host community households, markets both inside and outside the camps, and resulting from the distribution of humanitarian support at random sites lacking management and disposal, is likely to lead to outbreaks of waterborne diseases such as cholera, typhoid fever, diarrhoea and malaria. Environmentally, uncontrolled solid waste will also cause contamination to surface and groundwater sources. The situation will deteriorate in the cyclone and monsoon season. UNDP with funding from the Swedish International Development Agency (SIDA) is implementing a project called Sustainable Solid Waste Management. This project is a response to the Rohingya crisis in Bangladesh and the pressing SWM needs both in the host communities and refugee camps. By establishing basic SWM services of waste collection and changing the perception and the way waste is managed, the project is targeting the protection of women and children, the prevention of diseases, as well as the promotion of hygiene and proper sanitary standards. This project is being implemented in the host communities within six unions in Ukhia and Teknaf, and in the refugee camps, for three-year and a half implementation phase. In line with developing a solid waste management system, the project has constructed a network of SW infrastructure to store, process and safely dispose solid waste from the two Upazila including the refugee camps: Secondary collection points (SCP), Compost Unit (CU) and Temporary Solid Waste Facility (sanitary landfill) within Ukhia & Teknaf project area. The following facilities are a major existing infrastructure component of Solid Waste Management Activities: - Temporary Solid Waste Facility (Sanitary Landfill) at Camp 20 Ext, Ukhia (Link 1: SOP of the landfill; Link 2: May 2021 Landfill Report) - Temporary Solid Waste Facility (Sanitary Landfill) at Teknaf Municipality - Other SWM facilities like about 21 Secondary Collection points (SCP), about 5 Compost Unit at Ukhia & Teknaf unions and xx Temporary disposal sites. The above-mentioned list of infrastructures will address the waste disposal needs of approximately 1.5 million people (both from the Host Community and Rohingya refugees) for at least 5 years. The sanitary landfill will be the ultimate depository site for the solid wastes which cannot be recycled or recovered at the source. Towards this, UNDP is looking for a consultancy team to conduct Environmental Impact Assessment (EIA) study including overall Environmental Management Plan (EMP) for the project's SW infrastructures. The consultant shall collect data on conceptual design
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	of the sanitary landfill facility and other SWM facility from SWM team of UNDP and other relevant sources for the municipal solid waste generated from the Rohingya Refugee Camps and Host Communities in Ukhia and Teknaf Upazilas. The consultancy will be provided with more information about the characteristics of the SW facilities constructed and other environmental field studies for each location necessary for the assignment. Working Area: The area of study comprehends 5 Unions of 2 Upazilas, Teknaf Municipality, as well as 34 refugee camps focusing mainly on Camp20ext in Ukhia Upazila, under Cox’s Bazar as described in below table: <table><tr><th>Name of Upazila</th><th>Number of Unions/Camps/ Municipality</th><th>Names</th></tr><tr><td>Ukhia</td><td>2</td><td>Raja Palong and Palong Khali</td></tr><tr><td>Teknaf</td><td>3</td><td>Nhilla, Whykong, Baharchara UP, and Teknaf Municipality.</td></tr><tr><td>Ukhia Refugee camps</td><td>1</td><td>Camp number 20 Ex.</td></tr><tr><td>Total locations</td><td>6</td><td></td></tr></table>	Name of Upazila	Number of Unions/Camps/ Municipality	Names	Ukhia	2	Raja Palong and Palong Khali	Teknaf	3	Nhilla, Whykong, Baharchara UP, and Teknaf Municipality.	Ukhia Refugee camps	1	Camp number 20 Ex.	Total locations	6	
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Implementing Partner of UNDP	Solid Waste Management (SWM) Project															
Brief Description of the Required Services	Objective assignment: The overall objective of the Consultancy is to collect all necessary information from the site selected to properly conduct Environmental Impact Assessments of the existing sanitary landfills, and other Solid waste management facilities including logistic operation of waste collection from the host communities and camps. A. Review the Environmental Policy, Legal and Administrative Framework, including: A.1. National Environmental Administrative Frame and Legal Framework: description of the Bangladesh Environmental laws like “The ECR 1995, 1997”, “Environment Court Act 2010” on Solid Waste Management. Identifications of Department of Environment (DoE) legislations and guidelines on Solid Waste management and other city corporations, municipality related frameworks. A.2. Solid Waste Management Legislations: Identify all kinds of legislations on solid waste in Bangladesh whether it is governmental or non-governmental or educational institutes A.3. International Agreements and Protocols: Identify most important international legislations, agreements and protocols like Vienna Convention, Besel Convention etc on solid waste management A.4. UN and UNEP Environmental Policies and Guidelines: Guidelines of UN organizations environment, identify and follow specific guidelines of UNEP on solid waste management and EIA. B. EIA and EMP Report development for the project solid waste infrastructures.															

Different data collections from field visit and other reliable sources are mandatory. Graphical representations, detail mapping of different environmental aspects including transportation system of waste and other relevant maps should be included in reports.

- B.1.** Carry out Environmental Impact Assessments, for proposed/constructed SWM facilities like collection pints, transfer stations, MRF, Compost plants, Sanitary landfills (Temporary Solid Waste Facilities)/TSWF etc.
- B.2.** Prepare Site-Specific Environmental Management Plans (EMPs) based on Assessment findings.
- B.3.** Ensure that all positive and negative impacts associated with construction and operation of the Project, including all associated additional works and linked activities if any, are taken into account.
- B.4.** Comply with SIDA and UNDP's Social and Environmental Standard policies (SES) including Environmental Assessment; Natural Habitats), Forests, Physical Cultural Resources, Indigenous People Involuntary Resettlement; GoB Environmental Protection Act and Rules (DoE), Land Acquisition Act and Rules, and other environmental regulations of the UNDP/ UNEP and those of GoB applicable to this assignment.

For the purpose of this work, [Appendix A](#) provides detail guideline of the assignment's tasks and [Appendix B](#) provides initial guidance on siting criteria for sanitary landfill.

Scope of work:

Under this assignment, the selected consultancy firm will be based in Cox's Bazar to accomplish the activities and meeting deliverable targets mentioned in this TOR. The successful organization will coordinate with all relevant stakeholders to ensure proper supports in implementing the project activities.

Under above mentioned scope, the selected organization will perform the following activities:

SI #	Activities / Description	Targets	Schedule
1	Updated workplan and methodology will be submitted within the first week of the assignment. Appendix A provides more details descriptions of the following tasks: Task 1 -Data collection: As part of environmental impact assessment conduct the following field investigations per each targeted SW infrastructure: Gather information on soil conditions, soil type classification/characterization, and assess the seasonal water table, depth to bedrock, and formation resistivities and thicknesses, geologic and hydrogeologic conditions, portability, and flow directions, deep aquifers, catchment areas and surface waters on base maps of 1:500	01 Study report (Deliverable 1)	By 15th November, 2021

		scale and delineate groundwater contours at 1.0-meter intervals. • Gather information on flora & fauna to assess whether there are significant species or habitat at the site and identify agricultural activities. Delineate any on-site wetlands by soils and plant species. • Gather information from available sources to assess the socio-economic and cultural background of the resident population surrounding the site. • Gather information on traffic studies to determine the baseline use of the roads for waste transportation system. Gather information on the physical environment on climate, air quality, wind, rainfall, evaporation, and other geological & hydrological conditions which will affect the movement of windblown litter, dust, odor, and landfill gases.		
	2	Task 2 - Environmental Analysis Assess the environmental issues of the constructed and proposed SWM infrastructures, landfill, including the access road and its use, on the site and surrounding environment. Include assessment of traffic, noise, dust, odor, leachate, wastewater discharge, and landfill gas impacts on the environment including positive impacts (creation of jobs) impacts on aesthetic, historical, and cultural aspects, as appropriate. The assessment will include, but not be limited to, the following information: • Soil and geological information • Hydrogeological information • Estimation of leachate quantity and quality • Estimation of landfill gas quantity and quality • Traffic assessment • Socio-economic information • Assessment of the environmental impacts	01 Chapter for each SW facility (Deliverable 1)	By 15th November, 2021

		Development of mitigation measures for inclusion in the final design of the sanitary landfills and other SWM infrastructure construction and operation		
	3	Task 3 - Description of the Constructed/Proposed Sanitary Landfills and other SWM infrastructure Project The description should include: 1. Infrastructure of service area 2. Surrounding environment of landfill/SW facility location: 3. Facts about the landfill/SW facility development <i>Appendix A provides more details descriptions of the task</i>	01 Final report (Deliverable 2)	By 30 th November, 2021
	4	Task 4 - Description of the Environment The environment shall be described through assembly, evaluation, and presentation of baseline data on the following: 1. Physical environment: 2. Biological environment: 3. Socio-cultural environment: <i>Appendix A provides more details descriptions of the task</i>	01 Chapter for each SW facility (Deliverable 3, 4, 5)	By 30 th November, 2021
	5	Task 5 - Legislative and Regulatory Considerations The national and local legislation and guidelines on SWM infrastructures and landfilling of waste are to be described and the authorities responsible for monitoring of construction and the environment are to be noted. Any standards to be met for discharge from leachate treatment plants must be included. Outline the steps for obtaining all necessary environmental permits. Discuss the need for any legislation to be prepared to ensure that the proposed environmental standards will be fulfilled. Discuss needs for education, inspection, and enforcement to comply with existing and proposed legislation and any other requirements needed to ensure fulfillment of the proposed environment monitoring at national and local level.	01 Chapter for each SW facility (Deliverable 3, 4, 5)	By 15 th December, 2021
		Task 6 - Determination of Potential Impacts of the Proposed Project Identify and describe all potential major environmental impacts from the landfill development which will be significant		

	6	over the long-term. Describe as a minimum the environmental consequences from: - leachate emanating to surroundings through leakage in the proposed liner system; including estimates of quantity and quality of a potential leachate leakage and the consequences to groundwater and receiving surface water by using the information obtained under Task 3. - impact to neighborhoods along direct haul routes from increased traffic (primarily noise, dust, litter, odor, and vibrations), and including economic development due to improvements in roadways etc. - estimate impacts to surrounding neighborhoods near the landfill from noise, odor, gaseous emissions, dust, air-borne pathogenic micro-organisms, and windblown litter potentially related to landfill construction and operation. - determine the construction stage impact like change in land use, landscape alteration, erosion, lifting of superficial materials, water, air & noise impacts, impact to occupational health & safety creation of direct and secondary jobs related to landfill development.	01 Chapter for each SW facility (Deliverable 3, 4, 5)	By 15 th December, 2021
	7	Task7 - Analysis of Alternatives to the Proposed Project Describe alternatives in the course of screening sites and conducting preliminary design and assessment of the proposed landfill and other infrastructures. Describe alternative to designs for construction and operation , including liner solutions (no liner, clay liner, synthetic liner and composite liner systems); alternative gas venting, flaring and utilization systems; operation alternatives (cell development vs. open face development, optimizing of methanogenesis vs. no special operation	01 Chapter for each SW facility (Deliverable 3, 4, 5)	By 31 st December 2021

		techniques); leachate treatment methods (recycling vs. non-recycling and treatment in an existing municipal waste water treatment plant vs. on-site treatment); and alternative haul routes. Include the "no action" alternative of the sanitary landfill not being constructed but continuing with the existing open disposal practice as it is currently being operated. Discuss potential for waste minimization. For the Compost unit, SCP, MRF, Transportation system, identify the current gaps and propose alternate methods including detail design/systems. Compare the alternatives in terms of potential environmental impact (which are irreversible, unavoidable and which can be mitigated); capital and operation costs; sustainability under local conditions; and institutional, training and monitoring requirements. To the extent possible, quantify costs and benefits of each alternative.		
	8	Task 8 - Development of Management Plan to Mitigate Negative Impacts Recommended feasible and cost-effective measures to prevent or reduce significant negative impacts to acceptable levels. Indicate the impacts and costs of those measures, and of the institutional and training requirements to implement them. Consider compensation to affected parties for impacts which cannot be mitigated (e.g., re-housing of residents within a distance of approximately 250 meters from the proximity of the proposed landfill). Prepare management plan (including budget estimate, staffing requirements and other necessary support) to implement the mitigating measures.	01 Chapter for each SW facility (Deliverable 3, 4, 5)	By 31 st December 2021
	9	Task 9 - Identify Institutional Needs to Implement Environmental Assessment Recommendations Review the institutional capacity to implement, manage and monitor (in the short term as well as in the long-term) the proposed sanitary landfill. Recommend, if necessary, institutional strengthening at all levels	01 Chapter for each SW facility (Deliverable 3, 4, 5)	By 15th January 2022
		Task 10 - Development of Monitoring Plans		

	10	Environmental Management Plan (EMP) based on the findings of the impact assessment and feedback from public consultations. For each impact identified, feasible and cost-effective mitigation measures should be proposed to reduce potentially significant adverse environmental impacts to acceptable levels.	01 Chapter for each SW facility (Deliverable 3, 4, 5)	By 15th January 2022
	11	Task 11 – Conduct public and community consultation Consult the community who would be potentially affected (if any) at and around the project area and the pertinent stakeholders and local governments at various level. At this public participation meeting, present the project, the environmental issues related to the project and the responsibility, involvement and commitments of the relevant ministries and departments. Keep records of these meetings and address concerns as part of the mitigation measures in final design activities conducted under Part 1 of the scope of services within these terms of reference.	01 Chapter for each SW facility (Deliverable 3, 4, 5)	By 31st January 2022
	12	Task 12 – Validate the EIA according to UNDP SES Study and gather information and meet the requirements of SIDA and UNDP's Social and Environmental Standard policies (SES) including Environmental Assessment; Natural Habitats), Forests, Physical Cultural Resources, Indigenous People Involuntary Resettlement; GoB Environmental Protection Act and Rules (DoE), Land Acquisition Act and Rules, and other environmental regulations of the UNDP/ UNEP and those of GoB applicable to this assignment.	1 Study report (Deliverable 6)	By 31st January 2022

List and Description of Expected Outputs to be Delivered	The main deliverables of this assignment are:	
	SI #	Deliverable description
	Deliverable 1	Methodology and work plan of the assignment Environmental review report, including data reports for all environmental information from the selected site.
	Deliverable 2	Initial design of the SWM facilities (Sanitary landfills, SCP, Compost plants, MRF etc) and logistic operation, including layouts and design details, with their corresponding design analysis, quantity and construction cost estimate. Operations and maintenance manual and the health and safety manual.
	Deliverable 3	Environmental Impact Assessment and Environmental Management Plan (EMP) of the Sanitary Landfill in Camp 20 Ext. in Ukhia Upazila
	Deliverable 4	Environmental Impact Assessment and Environmental Management Plan (EMP) of the Sanitary Landfill in Teknaf Municipality, in Teknaf Upazila.
	Deliverable 5	Environmental Impact Assessment and Environmental Management Plan (EMP) of the SWM infrastructures like Secondary collection points (SCP), Transfer Stations, Materials Recovery facilities (MRF), Composting Units, Transportation System in overall project locations in Ukhia & Teknaf Upazila.
	Deliverable 6	UNDP's Social and Environmental Standard (SES) report
Person to Supervise the Work/Performance of the Service Provider	The contracted firm will report to the Project Manager and SWM Specialist in UNDP CXB with assurance support from the Program Coordinator in Dhaka Office. A performance evaluation will be carried out at the end of the assignment.	
Frequency of Reporting	As indicated in the TOR	
Progress Reporting Requirements	As indicated in the TOR	
Location of work	☐ Exact Address/es <i>[pls. specify]</i> As indicated in the TOR.	
Expected duration of work	3 Months 15 th November 2021 to 15 th Feb 2022. (60 Working Days).	
Target start date	15 th November 2021 (Tentative)	
Latest completion date	to 15 th February 2022 (Tentative)	
Travels Expected	Not Required	
Special Security Requirements	☐ Security Clearance from UN prior to travelling ☐ Completion of UN's Basic and Advanced Security Training ☐ Comprehensive Travel Insurance ☐ Others <i>[pls. specify]</i> ☒ N/A	

Facilities to be Provided by UNDP (i.e., must be excluded from Price Proposal)	☒ Office space and facilities ☐ Land Transportation ☒ Others as per TOR.														
Implementation Schedule indicating breakdown and timing of activities/sub-activities	☒ Required ☐ Not Required														
Names and curriculum vitae of individuals who will be involved in completing the services	☒ Required ☐ Not Required														
Currency of Proposal	☐ United States Dollars ☐ Euro ☒ Local Currency (BDT)														
Value Added Tax on Price Proposal	All prices must: ☒ Be inclusive 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														
Payment Terms	Schedule of Payments: For completing above mentioned activities and deliverables/outputs, the selected organization will receive the payments in following installments subject to the achievements of targeted deliverables or milestone. <table border="1"> <thead> <tr> <th>% Payment</th> <th>Deliverables</th> <th>Timeline</th> </tr> </thead> <tbody> <tr> <td>1st payment: 30% of the total amount</td> <td> Upon submission and acceptance of: - detailed work plan with research plan - deliverable 1 </td> <td>Within 15 days of the signing of the Contract</td> </tr> <tr> <td>2nd payment: 35% of the total amount</td> <td> Upon submission and acceptance of: - deliverable 2 - deliverable 3 </td> <td>By 15th January 2022</td> </tr> <tr> <td>3rd payment: 35% of the total amount</td> <td> Upon submission and acceptance of: - deliverable 4 </td> <td>By 15th February 2022</td> </tr> </tbody> </table>			% Payment	Deliverables	Timeline	1 st payment: 30% of the total amount	Upon submission and acceptance of: - detailed work plan with research plan - deliverable 1	Within 15 days of the signing of the Contract	2 nd payment: 35% of the total amount	Upon submission and acceptance of: - deliverable 2 - deliverable 3	By 15 th January 2022	3 rd payment: 35% of the total amount	Upon submission and acceptance of: deliverable 4	By 15 th February 2022
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	• deliverable 5 • deliverable 6
Person(s) to review/inspect / approve outputs/compl eted services and authorize the disbursement of payment	Project Manager, SWM
Type of Contract to be Signed	☒ Contract for Professional Services
Criteria for Contract Award	☒ 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	Bidder must have adequate technical ability, resources, human resources and processes. As such, following are defined as minimum eligibility criteria: <u>Minimum eligibility criteria for the Consultancy/Institution/Research organization:</u> I. Registered in Bangladesh and in good legal status recognized by the GoB, enabling the organization to perform the tasks mentioned above; II. Minimum 5 (five) years demonstrated experience in organizing large scale social/environmental assessments. III. Experience of conducting minimum 3 (Three) similar type nationwide studies in the field of waste management, non-regulating industry, and/or infrastructure developments in last 5 years. To submit the profile which should not exceed fifteen pages including any printed brochure relevant to the services being procured. IV. Proven legal status of the organization and ability to submit related documents (i.e. updated registration/licenses, tax payment certificate, other related/alternative documents or certificates (e.g. latest audit reports). V. Experience of designing Sanitary Landfill in other parts of the country or abroad will be preferred. VI. Proven financial strength. To submit the latest audited Financial Statements (two years)- income statement and balance sheet to indicate its financial stability, liquidity, credit standing, and market reputation, etc. VII. Written self-declaration that the organization is not in the UN Security Council 1267/1989 List, UN Procurement Division List or Other UN ineligibility List (As per Annex IV);

Minimum Qualifications and experience of the Key personnel of Consultancy/Institution/Research organization:			
SL #	Position	Number	Educational Qualifications and Experiences
1	Team Leader/Lead Researcher <i>* the profile of the team leader can perform any of the below profiles.</i>	1	The Team leader, an Environmental Science/Environmental Engineering/Civil Engineering, preferably with the post-graduation specialization in environmental Science/engineering /relevant field, shall have at least 5 years of working experience related to preparation of EA, integration of environmental and social issues in the design, implementation and operation of rural infrastructure projects, including roads, bridge, waste management and industrial facilities, etc. Experience in construction, maintenance and management of rural infrastructure and Environmental management is preferred.
2	Geotechnical Expert/ Geologist and GIS Expert	1	Master's degree in environmental Geology/Geography and Environment, Environmental engineering or equivalent having 5 years' experience working in Soil/Biological/water parameter analysis and GIS-related software and discipline-specific GIS field (maps, tables, etc.) with experience in the assignments of similar nature and complexity. Having master's in Geology/ Soil, Water and Earth will be preferred
3	Environmental Safeguard Specialist	1	Master's degree in environmental science/biology/engineering or equivalent having 3 years' experience in environmental impact assessments or in assignments of similar nature and complexity. Having master's in environmental science/Engineering will be preferred.
4	Social Safeguard Specialist	1	Master's in social science or equivalent having 3 years' experience in any assignment with similar nature and complexity and having master's in environmental science/Engineering will be preferred.
5	Enumerators	As per need	Bachelor/Diploma in related field and having experience on data collection and surveys.
Evaluation: The eligible proposals will be evaluated based on the following methodology: Cumulative analysis: The proposals will be evaluated through Cumulative Analysis method. When using the weighted scoring method, the award of the contract will be made to the proposer whose offer has been evaluated and determined as: a) Responsive/compliant/acceptable, and b) Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to the solicitation.			

	1. Technical Evaluation – 70% (Maximum points obtainable – 70) 2. Financial Evaluation – 30% (Maximum points obtainable – 30) Technical Proposal (70%) ☒ Expertise of the Firm ☒ Management Structure and Qualification of Key Personnel ☒ Methodology proposed in the technical proposal **Only Proposals obtaining a minimum of 70% marks i.e., 49 points in the Technical evaluation would be considered for Financial evaluation. Technical Evaluation - 70% (Maximum point obtainable – 70) Quality based under Fixed Budget Selection (QB-FBS) method will be applied to evaluate the Consultancy/Institute/Research center. Award of the contract will be made to the tenderer whose offer has been evaluated and determined as: - Responsive/compliant/acceptable with reference to this Terms of Reference (ToR), and; - Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to this solicitation. <table border="1"> <thead> <tr> <th>SL #</th> <th>Criteria of Technical & Financial Proposal Evaluation</th> <th>Weight against total points/ score</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Capacity and Expertise of the firm</td> <td>30%</td> </tr> <tr> <td>1.1.</td> <td>Minimum 5 (five) years demonstrated experience in organizing large scale social/environmental assessments.</td> <td>10%</td> </tr> <tr> <td>1.2</td> <td>Experience of conducting minimum 3 (Three) similar type nationwide studies in the field of waste management, non-regulating industry and/or infrastructure development, in last 5 years. To submit the profile which should not exceed fifteen pages including any printed brochure relevant to the services being procured.</td> <td>15%</td> </tr> <tr> <td>1.3</td> <td>Client profile to work with UN agency or bilateral donor or Local Government (minimum one relevant Work Experience certificate)</td> <td>5%</td> </tr> <tr> <td>2</td> <td>Proposed Methodology, Approach and Implementation Plan as per TOR</td> <td>15%</td> </tr> <tr> <td>2.1</td> <td>Proposed Methodology, detailed Work Plan and Time distribution of the team as per TOR</td> <td>15%</td> </tr> <tr> <td>3</td> <td>Team structure and Capacity of Key personnel experience of team as per minimum requirement suggested</td> <td>25%</td> </tr> <tr> <td>3.1</td> <td>Expertise of the Team Leader/ Lead Researcher: 5 years Geologist/GIS Expert: 5 years Environmental Safeguard specialist: 3 years Social Safeguard specialist: 3 years</td> <td>25%</td> </tr> </tbody> </table>	SL #	Criteria of Technical & Financial Proposal Evaluation	Weight against total points/ score	1	Capacity and Expertise of the firm	30%	1.1.	Minimum 5 (five) years demonstrated experience in organizing large scale social/environmental assessments.	10%	1.2	Experience of conducting minimum 3 (Three) similar type nationwide studies in the field of waste management, non-regulating industry and/or infrastructure development, in last 5 years. To submit the profile which should not exceed fifteen pages including any printed brochure relevant to the services being procured.	15%	1.3	Client profile to work with UN agency or bilateral donor or Local Government (minimum one relevant Work Experience certificate)	5%	2	Proposed Methodology, Approach and Implementation Plan as per TOR	15%	2.1	Proposed Methodology, detailed Work Plan and Time distribution of the team as per TOR	15%	3	Team structure and Capacity of Key personnel experience of team as per minimum requirement suggested	25%	3.1	Expertise of the Team Leader/ Lead Researcher: 5 years Geologist/GIS Expert: 5 years Environmental Safeguard specialist: 3 years Social Safeguard specialist: 3 years	25%
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	4	Financial proposal	30%
		Total	100%
UNDP will award the contract to:	☒ One Service Provider		
Contract General Terms and Conditions	☒ 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	☒ Form for Submission of Proposal (Annex 2) ☒ Detailed TOR (Annex-3) ☒ Written Self Declaration (Annex-4)		
Contact Person for Inquiries (Written inquiries only)	<i>Please mention the following in the subject while sending any query to UNDP regarding this RFP on or before 25 October,2021.</i> <i><u>"Queries on RFP-BD-CXB-2021-006" (Advertisement) to e-bidboxcxb.bd@undp.org</u></i> 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]	Pre-bid meeting will be held online (Zoom link in invitation letter) for the clarification on the bidding document and ToR on 27 th October 2021.		

FORM FOR SUBMITTING SERVICE PROVIDER'S PROPOSAL¹

(This Form must be submitted only using the Service Provider's Official Letterhead/Stationery²)

[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, Tax Payment Certification, 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) 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.

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*

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

- 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*

	Deliverables <i>[list them as referred to in the RFP]</i>	Percentage of Total Price <i>(Weight for payment)</i>	Price <i>(Lump Sum, All Inclusive)</i>
1	Deliverable 1		
2	Deliverable 2		
3			
	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	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				

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

[Designation]

[Date]



*Empowered lives.
Resilient nations.*

Terms of Reference (TOR)

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR SANITARY LANDFILL AND OTHER SOLID WASTE FACILITIES IN CAMPS AND HOST COMMUNITIES, TEKNAF AND UKHIA UPAZILA

1. Project Title: EIA for sanitary landfill and other solid waste facilities in camps and host communities, Teknaf and Ukhia Upazila, Cox's Bazar.

1. Background/Project Description:

As a result of the Rohingya refugee influx to Bangladesh, the population of two Upazilas (sub district) of Ukhia and Teknaf in the southern part of Cox's Bazar has risen to around 1.5 million people. This has strongly contributed to existing health and environment challenges, including underfunded and under resourced solid waste management (SWM) services. It is estimated that over 10,000 ton or around 22,000 cubic meter of waste per month is generated in the two Upazilas which do not have a functioning SWM system.

Solid waste discarded by refugee and host community households, markets both inside and outside the camps, and resulting from the distribution of humanitarian support at random sites lacking management and disposal, is likely to lead to outbreaks of waterborne diseases such as cholera, typhoid fever, diarrhoea and malaria. Environmentally, uncontrolled solid waste will also cause contamination to surface and groundwater sources. The situation will deteriorate in the cyclone and monsoon season.

UNDP with funding from the Swedish International Development Agency (SIDA) is implementing a project called Sustainable Solid Waste Management. This project is a response to the Rohingya crisis in Bangladesh and the pressing SWM needs both in the host communities and refugee camps.

By establishing basic SWM services of waste collection and changing the perception and the way waste is managed, the project is targeting the protection of women and children, the prevention of diseases, as well as the promotion of hygiene and proper sanitary standards. This project is being implemented in the host communities within six unions in Ukhia and Teknaf, and in the refugee camps, for three-year and a half implementation phase.

In line with developing a solid waste management system, the project has constructed a network of SW infrastructure to store, process and safely dispose solid waste from the two Upazila including the refugee camps: Secondary collection points (SCP), Compost Unit (CU) and Temporary Solid Waste Facility (sanitary landfill) within Ukhia & Teknaf project area. The following facilities are a major existing infrastructure component of Solid Waste Management Activities:

- Temporary Solid Waste Facility (Sanitary Landfill) at Camp 20 Ext, Ukhia ([Link 1: SOP of the landfill](#); [Link 2: May 2021 Landfill Report](#))
- Temporary Solid Waste Facility (Sanitary Landfill) at Teknaf Municipality
- Other SWM facilities like about 21 Secondary Collection points (SCP), about 5 Compost Unit at Ukhia & Teknaf unions and xx Temporary disposal sites.

The above-mentioned list of infrastructures will address the waste disposal needs of approximately 1.5 million people (both from the Host Community and Rohingya refugees) for at least 5 years. The sanitary landfill will be the ultimate depository site for the solid wastes which cannot be recycled or recovered at the source.

Towards this, UNDP is looking for a consultancy team to conduct Environmental Impact Assessment (EIA) study including overall Environmental Management Plan (EMP) for the project's SW infrastructures. The consultant shall collect data on conceptual design of the sanitary landfill facility and other SWM facility from SWM team of

UNDP and other relevant sources for the municipal solid waste generated from the Rohingya Refugee Camps and Host Communities in Ukhia and Teknaf Upazilas.

The consultancy will be provided with more information about the characteristics of the SW facilities constructed and other environmental field studies for each location necessary for the assignment.

2. Working Area:

The area of study comprehends 5 Unions of 2 Upazilas, Teknaf Municipality, as well as 34 refugee camps focusing mainly on Camp 20 Ex in Ukhia Upazila, under Cox's Bazar as described in below table:

Name of Upazila	Number of Unions/Camps/ Municipality	Names
Ukhia	2	Raja Palong and Palong Khali
Teknaf	3	Nhilla, Whykong, Baharchara UP, and Teknaf Municipality.
Ukhia Refugee camps	1	Camp number 20 Ex.
Total locations	6	

3. Objective assignment:

The overall objective of the Consultancy is to collect all necessary information from the site selected to properly conduct Environmental Impact Assessments of the existing sanitary landfills, and other Solid waste management facilities including logistic operation of waste collection from the host communities and camps.

B. Review the Environmental Policy, Legal and Administrative Framework, including:

- B.5. National Environmental Administrative Frame and Legal Framework:** description of the Bangladesh Environmental laws like "The ECR 1995, 1997", "Environment Court Act 2010" on Solid Waste Management. Identifications of **Department of Environment (DoE)** legislations and guidelines on Solid Waste management and other city corporations, municipality related frameworks.
- B.6. Solid Waste Management Legislations:** Identify all kinds of legislations on solid waste in Bangladesh whether it is governmental or non-governmental or educational institutes
- B.7. International Agreements and Protocols:** Identify most important international legislations, agreements and protocols like Vienna Convention, Basel Convention etc on solid waste management
- B.8. UN and UNEP Environmental Policies and Guidelines:** Guidelines of UN organizations environment, identify and follow specific guidelines of UNEP on solid waste management and EIA.

C. EIA and EMP Report development for the project solid waste infrastructures.

Different data collections from field visit and other reliable sources are mandatory. Graphical representations, detail mapping of different environmental aspects including transportation system of waste and other relevant maps should be included in reports.

- C.1.** Carry out Environmental Impact Assessments, for proposed/constructed SWM facilities like collection pints, transfer stations, MRF, Compost plants, Sanitary landfills (Temporary Solid Waste Facilities)/TSWF etc.
- C.2.** Prepare Site-Specific Environmental Management Plans (EMPs) based on Assessment findings.
- C.3.** Ensure that all positive and negative impacts associated with construction and operation of the Project, including all associated additional works and linked activities if any, are taken into account.
- C.4.** Comply with SIDA and UNDP's Social and Environmental Standard policies (SES) including Environmental Assessment; Natural Habitats), Forests, Physical Cultural Resources, Indigenous People Involuntary Resettlement; GoB Environmental Protection Act and Rules (DoE), Land Acquisition Act and Rules, and other environmental regulations of the UNDP/ UNEP and those of GoB applicable to this assignment.

For the purpose of this work, [Appendix A](#) provides detail guideline of the assignment's tasks and [Appendix B](#) provides initial guidance on siting criteria for sanitary landfill.

4. Scope of work:

Under this assignment, the selected consultancy firm will be based in Cox's Bazar to accomplish the activities and meeting deliverable targets mentioned in this TOR. The successful organization will coordinate with all relevant stakeholders to ensure proper supports in implementing the project activities.

Under above mentioned scope, the selected organization will perform the following activities:

SI #	Activities / Description	Targets	Schedule
1.	Updated workplan and methodology will be submitted within the first week of the assignment. Appendix A provides more details descriptions of the following tasks: Task 1 -Data collection: As part of environmental impact assessment conduct the following field investigations per each targeted SW infrastructure: - Gather information on soil conditions, soil type classification/characterization, and assess the seasonal water table, depth to bedrock, and formation resistivities and thicknesses, geologic and hydrogeologic conditions, portability, and flow directions, deep aquifers, catchment areas and surface waters on base maps of 1:500 scale and delineate groundwater contours at 1.0-meter intervals. - Gather information on flora & fauna to assess whether there are significant species or habitat at the site and identify agricultural activities. Delineate any on-site wetlands by soils and plant species. - Gather information from available sources to assess the socio-economic and cultural background of the resident population surrounding the site. - Gather information on traffic studies to determine the baseline use of the roads for waste transportation system. - Gather information on the physical environment on climate, air quality, wind, rainfall, evaporation, and other geological & hydrological conditions which will affect the movement of windblown litter, dust, odor, and landfill gases.	01 Study report (Deliverable 1)	By 15th November, 2021
2.	Task 2 - Environmental Analysis Assess the environmental issues of the constructed and proposed SWM infrastructures, landfill, including the access road and its use, on the site and surrounding environment. Include assessment of traffic, noise, dust, odor, leachate, wastewater discharge, and landfill gas impacts on the environment including positive impacts (creation of jobs) impacts on aesthetic, historical, and cultural aspects, as appropriate.	01 Chapter for each SW facility (Deliverable 1)	

SI #	Activities / Description	Targets	Schedule
	The assessment will include, but not be limited to, the following information: • Soil and geological information • Hydrogeological information • Estimation of leachate quantity and quality • Estimation of landfill gas quantity and quality • Traffic assessment • Socio-economic information • Assessment of the environmental impacts • Development of mitigation measures for inclusion in the final design of the sanitary landfills and other SWM infrastructure construction and operation		
3.	Task 3 - Description of the Constructed/Proposed Sanitary Landfills and other SWM infrastructure Project The description should include: 4. Infrastructure of service area 5. Surrounding environment of landfill/SW facility location: 6. Facts about the landfill/SW facility development <i>Appendix A provides more details descriptions of the task</i>	01 Final report (Deliverable 2)	By 30 th November, 2021
4.	Task 4 - Description of the Environment The environment shall be described through assembly, evaluation, and presentation of baseline data on the following: 4. Physical environment: 5. Biological environment: 6. Socio-cultural environment: <i>Appendix A provides more details descriptions of the task</i>	01 Chapter for each SW facility (Deliverable 3, 4, 5)	
5.	Task 5 - Legislative and Regulatory Considerations The national and local legislation and guidelines on SWM infrastructures and landfilling of waste are to be described and the authorities responsible for monitoring of construction and the environment are to be noted. Any standards to be met for discharge from leachate treatment plants must be included. Outline the steps for obtaining all necessary environmental permits. Discuss the need for any legislation to be prepared to ensure that the proposed environmental standards will be fulfilled. Discuss needs for education, inspection, and enforcement to comply with existing and proposed legislation and any other requirements needed to ensure fulfillment of the proposed environment monitoring at national and local level.	01 Chapter for each SW facility (Deliverable 3, 4, 5)	By 15 th December, 2021
6.	Task 6 - Determination of Potential Impacts of the Proposed Project Identify and describe all potential major environmental impacts from the landfill development which will be significant over the long-term. Describe as a minimum the environmental consequences from: • leachate emanating to surroundings through leakage in the proposed liner system; including estimates of quantity and quality of a potential leachate leakage and the consequences to groundwater and receiving surface water by using the information obtained under Task 3.	01 Chapter for each SW facility (Deliverable 3, 4, 5)	

SI #	Activities / Description	Targets	Schedule
	• impact to neighborhoods along direct haul routes from increased traffic (primarily noise, dust, litter, odor, and vibrations), and including economic development due to improvements in roadways etc. • estimate impacts to surrounding neighborhoods near the landfill from noise, odor, gaseous emissions, dust, air-borne pathogenic micro-organisms, and windblown litter potentially related to landfill construction and operation. • determine the construction stage impact like change in land use, landscape alteration, erosion, lifting of superficial materials, water, air & noise impacts, impact to occupational health & safety • creation of direct and secondary jobs related to landfill development.		
7.	Task7 - Analysis of Alternatives to the Proposed Project Describe alternatives in the course of screening sites and conducting preliminary design and assessment of the proposed landfill and other infrastructures. Describe alternative to designs for construction and operation , including liner solutions (no liner, clay liner, synthetic liner and composite liner systems); alternative gas venting, flaring and utilization systems; operation alternatives (cell development vs. open face development, optimizing of methanogenesis vs. no special operation techniques); leachate treatment methods (recycling vs. non-recycling and treatment in an existing municipal waste water treatment plant vs. on-site treatment); and alternative haul routes. Include the "no action" alternative of the sanitary landfill not being constructed but continuing with the existing open disposal practice as it is currently being operated. Discuss potential for waste minimization. For the Compost unit, SCP, MRF, Transportation system, identify the current gaps and propose alternate methods including detail design/systems. Compare the alternatives in terms of potential environmental impact (which are irreversible, unavoidable and which can be mitigated); capital and operation costs; sustainability under local conditions; and institutional, training and monitoring requirements. To the extent possible, quantify costs and benefits of each alternative.	01 Chapter for each SW facility (Deliverable 3, 4, 5)	By 31 st December 2021
8.	Task 8 - Development of Management Plan to Mitigate Negative Impacts Recommended feasible and cost-effective measures to prevent or reduce significant negative impacts to acceptable levels. Indicate the impacts and costs of those measures, and of the institutional and training requirements to implement them. Consider compensation to affected parties for impacts which cannot be mitigated (e.g., re-housing of residents within a distance of approximately 250 meters from the proximity of the proposed landfill). Prepare management plan (including budget estimate, staffing requirements and other necessary support) to implement the mitigating measures.	01 Chapter for each SW facility (Deliverable 3, 4, 5)	

SI #	Activities / Description	Targets	Schedule
9.	Task 9 - Identify Institutional Needs to Implement Environmental Assessment Recommendations Review the institutional capacity to implement, manage and monitor (in the short term as well as in the long-term) the proposed sanitary landfill. Recommend, if necessary, institutional strengthening at all levels	01 Chapter for each SW facility (Deliverable 3, 4, 5)	By 15th January 2022
10.	Task 10 - Development of Monitoring Plans Environmental Management Plan (EMP) based on the findings of the impact assessment and feedback from public consultations. For each impact identified, feasible and cost-effective mitigation measures should be proposed to reduce potentially significant adverse environmental impacts to acceptable levels.	01 Chapter for each SW facility (Deliverable 3, 4, 5)	
11.	Task 11 – Conduct public and community consultation Consult the community who would be potentially affected (if any) at and around the project area and the pertinent stakeholders and local governments at various level. At this public participation meeting, present the project, the environmental issues related to the project and the responsibility, involvement and commitments of the relevant ministries and departments. Keep records of these meetings and address concerns as part of the mitigation measures in final design activities conducted under Part 1 of the scope of services within these terms of reference.	01 Chapter for each SW facility (Deliverable 3, 4, 5)	By 31st January 2022
12.	Task 12 – Validate the EIA according to UNDP SES Study and gather information and meet the requirements of SIDA and UNDP's Social and Environmental Standard policies (SES) including Environmental Assessment; Natural Habitats), Forests, Physical Cultural Resources, Indigenous People Involuntary Resettlement; GoB Environmental Protection Act and Rules (DoE), Land Acquisition Act and Rules, and other environmental regulations of the UNDP/ UNEP and those of GoB applicable to this assignment.	1 Study report (Deliverable 6)	

5. Expected Key Outputs/Deliverables:

The main deliverables of this assignment are:

Nos. of Deliverables	Deliverable description
Deliverable: 1	Methodology and work plan of the assignment Environmental review report, including data reports for all environmental information from the selected site.
Deliverable 2:	Initial design of the SWM facilities (Sanitary landfills, SCP, Compost plants, MRF etc) and logistic operation, including layouts and design details, with their corresponding design analysis, quantity and construction cost estimate. Operations and maintenance manual and the health and safety manual.
Deliverable 3	Environmental Impact Assessment and Environmental Management Plan (EMP) of

	the Sanitary Landfill in Camp 20 Ext. in Ukhia Upazila.
Deliverable 4	Environmental Impact Assessment and Environmental Management Plan (EMP) of the Sanitary Landfill in Teknaf Municipality, in Teknaf Upazila.
Deliverable 5	Environmental Impact Assessment and Environmental Management Plan (EMP) of the SWM infrastructures like Secondary collection points (SCP), Transfer Stations, Materials Recovery facilities (MRF), Composting Units, Transportation System in overall project locations in Ukhia & Teknaf Upazila.
Deliverable 6	UNDP's Social and Environmental Standard (SES) report

6. Institutional Arrangement:

The selected Consultancy will operate its activities through own office or UNDP Cox's Bazar sub office and will report directly to the assigned focal person of UNDP. The organization needs to maintain close coordination with relevant government and non-government officials as well as CSOs/NGOs working in the area, including the ISCG Coordination platform representatives. Day to day liaison, coordination and reporting will be maintained through dedicated officer of the project from UNDP. Informative weekly progress report submission to UNDP is mandatory. **The organization will complete all activities and submit final report before the last date of the Agreement.** UNDP shall be the owner of all existing "intellectual property" and any intellectual property embodied in materials, printed matters, deliveries or reports performed or created in relation to and for the purpose of this assignment. "Intellectual property" includes the items like patents, copyrights, design, models, trademarks, confidential information etc. whether or not registered.

The contracted firm will report to the Environment and Infrastructure Associate, the Solid Waste Management Specialist and Project Manager in UNDP CXB with assurance support from the Programme Specialist (Climate change & Disaster Risk Management) in Dhaka Office. A performance evaluation will be carried out at the end of the assignment

7. Duration of the Assignment:

Duration of the assignment is 3 months from the signing of Responsible Party Agreement (RPA), from 1st November 2021 to 31st January 2022. (60 Working Days).

8. Budget Amount:

Location	Budget in BDT	Budget in USD
Cox's Bazar district	0	0

9. Qualifications of the Successful Consultancy/Institution/Research organization:

Prior to the technical evaluation all proposals will be screened based on the minimum eligibility criteria mentioned below:

- I. Registered in Bangladesh and in good legal status recognized by the GoB, enabling the organization to perform the tasks mentioned above;
- II. Minimum 5 (five) years demonstrated experience in organizing large scale social/environmental assessments);
- III. Experience of conducting minimum 3 (Three) similar type nationwide studies in the field of waste management, non-regulating industry, and/or infrastructure developments in last 5 years. To submit the profile which should not exceed fifteen pages including any printed brochure relevant to the services being procured.

- IV. Proven legal status of the organization and ability to submit related documents (i.e. updated registration/licenses, tax payment certificate, other related/alternative documents or certificates (e.g. latest audit reports).
- V. Experience of designing Sanitary Landfill in other parts of the country or abroad will be preferred.
- VI. Proven financial strength. To submit the latest audited Financial Statements (two years)- income statement and balance sheet to indicate its financial stability, liquidity, credit standing, and market reputation, etc.
- VII. Written self-declaration that the organization is not in the UN Security Council 1267/1989 List, UN Procurement Division List or Other UN ineligibility List (As per Annex IV);

Minimum Qualifications and experience of the Key personnel of Consultancy/ Institution / Research Center:

Sl#	Position	Number	Educational Qualifications and Experiences
1	Team Leader/Lead Researcher <i>* the profile of the team leader can perform any of the below profiles.</i>	1	The Team leader, an Environmental Science/Environmental Engineering/Civil Engineering, preferably with the post-graduation specialization in environmental Science/engineering /relevant field, shall have at least 5 years of working experience related to preparation of EA, integration of environmental and social issues in the design, implementation and operation of rural infrastructure projects, including roads, bridge, waste management and industrial facilities, etc. Experience in construction, maintenance and management of rural infrastructure and Environmental management is preferred.
2	Geotechnical Expert/ Geologist and GIS Expert	1	Master's degree in environmental Geology/Geography and Environment, Environmental engineering or equivalent having 5 years' experience working in Soil/Biological/water parameter analysis and GIS-related software and discipline-specific GIS field (maps, tables, etc.) with experience in the assignments of similar nature and complexity. Having master's in Geology/ Soil, Water and Earth will be preferred.
3	Environmental Safeguard Specialist	1	Master's degree in environmental science/biology/engineering or equivalent having 3 years' experience in environmental impact assessments or in assignments of similar nature and complexity. Having master's in environmental science/Engineering will be preferred.
4	Social Safeguard Specialist	1	Master's in social science or equivalent having 3 years' experience in any assignment with similar nature and complexity and having master's in environmental science/Engineering will be preferred.
5	Enumerators	As per need	Bachelor/Diploma in related field and having experience on data collection and surveys.

10. Scope of price proposal and schedule of payment:

The Proposal amount should not exit the total budget	Geographical coverage	Budget ceiling in BDT
For Cox's Bazar districts	14 locations (5 Unions and 9 refugee camps)	0

Schedule of Payments: For completing above mentioned activities and deliverables/outputs, the selected organization will receive the payments in following installments subject to the achievements of targeted deliverables or milestone.

% Payment	Deliverables	Timeline
1 st payment: 30% of the total amount	Upon submission and acceptance of: - detailed work plan with research plan - deliverable 1	Within 15 days of signing of the Contract
2 nd payment: 35% of the total amount	Upon submission and acceptance of: - deliverable 2 - deliverable 3	By 15 th January 2022
3 rd payment: 35% of the total amount	Upon submission and acceptance of: - deliverable 4 - deliverable 5 - deliverable 6	By 15 th February 2022

11. Recommended Presentation of proposal and required annexes to the ToR

Interested Consultancy/Institution/Research center must submit the following documentation:

A detailed proposal made up of documentation to demonstrate the qualifications of the prospective organization, to enable appraisal of competing bids. The proposal is expected to be in English and shows how the organization will deliver the services outlined in the TOR together with an overall budget. The proposal should include at minimum the following information:

- Technical Proposal
Section 1: Eligibility and Capacity/Expertise of Consultancy/Institution/Research center
Section 2: Methodology, Approach and Implementation Plan (from project inception till project closing)
Section 3: Team structure, Capacity of Key Personnel and Task distribution of each member
- Financial Proposal template: Cost breakdown as per provided template should be provided.
Section 4. The Financial Proposal shall specify a total delivery amount in BDT (including personnel, field visits and surveys, equipment, fairs, fees and all associated costs i.e. travel cost, subsistence per diems, printing costs, overheard charges).
Section 5. In order to assist UNDP in the comparison of financial proposals, the financial proposal will include a breakdown of this amount, disclosing the key assumption employed in costing the working.
The cost of preparing a proposal and of negotiating a contract, including any related travel, is not reimbursable as a direct cost of the assignment.
- Self-Declaration
- General Terms and Conditions
- Specification for Items to be procured if any

12. Evaluation:

Quality based under Fixed Budget Selection (QB-FBS) method will be applied to evaluate the Consultancy/Institute/Research center. Award of the contract will be made to the tenderer whose offer has been evaluated and determined as:

- a. Responsive/compliant/acceptable with reference to this Terms of Reference (ToR), and;
- b. Having received the highest score out of a pre-determined set of weighted technical and financial criteria specific to this solicitation.

13. Criteria of Technical & Financial Proposal Evaluation

SL #	Criteria of Technical & Financial Proposal Evaluation	Weight against total points/ score
1	Capacity and Expertise of the firm	30%
1.1.	Minimum 5 (five) years demonstrated experience in organizing large scale social/environmental assessments.	10%
1.2	Experience of conducting minimum 3 (Three) similar type nationwide studies in the field of waste management, non-regulating industry, and/or infrastructure developments in last 5 years. To submit the profile which should not exceed fifteen pages including any printed brochure relevant to the services being procured.	15%
1.3	Client profile to work with UN agency or bilateral donor or Local Government (minimum one relevant Work Experience certificate).	5%
2	Proposed Methodology, Approach and Implementation Plan as per TOR	15%
2.1	Proposed Methodology, detailed Work Plan and Time distribution of the team as per TOR	15%
3	Team structure and Capacity of Key personnel experience of team as per minimum requirement suggested	25%
3.1	Expertise of the Team Leader/ Lead Researcher: 5 years Geologist/GIS Expert: 5 years Environmental Safeguard specialist: 3 years Social Safeguard specialist: 3 years	25%
4	Financial proposal	30%
	Total	100%

UNDP will disburse the funds as per achievement of deliverables mentioned in the ToR, subject to certification/ verification by the Project Manager, Community Cohesion in Cox's Bazar through review of financial statements, progress reports, monitoring findings, compliance adherence and other substances related to the Project implementation (except the first installment). UNDP will disburse the first installment upon submission and acceptance of the deliverable no 1

14. Contact

The primary contact of this partnership will be the focal person assigned by UNDP Cox's Bazar office.

15. Appendix

Appendix A - Descriptions of the Tasks

Task 1 – Field Data collection. Field Studies of 3 sites for Solid waste facilities: Sanitary Landfill in Camp 20 Ext (existing), Sanitary Landfill in Teknaf Municipality (existing) and other SW infrastructures.

- Conduct test holes to assess the soil conditions, determine soil type by sieve screenings and standard soil classification/characterization tests, and assess the seasonal high ground water levels from mottling, piezometric levels, and other signs of high-water table.
- Conduct geophysical surveys to determine overall stratigraphy of soil and weathered rock layers and determine the depth to bedrock, conduct ground conductivity survey by electromagnetic transverse lines across the property every 200m. Perform vertical electrical soundings to determine formation resistivities and thicknesses in greater detail at anomalies identified by the electromagnetic surveys.
- Conduct borings to the uppermost confined aquifer (or to within 30 m of the ground surface) to assess geologic and hydrogeologic conditions, take piezometric water levels, take groundwater samples to test for basic parameters of portability, and determine flow directions. Assess whether any deep aquifers which are used or potentially anticipated to be used for water supply are protected by a confining layer of impermeable rock or soil. Outline all catchment areas and surface waters on base maps of 1:500 scale and delineate groundwater contours at 1.0-meter intervals.
- Gather information on flora & fauna. Conduct biological field studies to assess whether there are significant species or habitat at the site and identify agricultural activities. Delineate any on-site wetlands by soils and plant species.
- Gather information from available sources and interviews regarding the socio-economic and cultural background of the resident population surrounding the site. Work with social scientists engaged under separate terms of reference to understand the problems, needs, and aspirations of the resident population.
- Conduct traffic studies to determine the baseline use of the roads anticipated for use by refuse collection trucks in traveling to and from the selected landfill site, and the "as constructed" adequacy of these roads, bridges and culverts to support the additional size, weight and number of vehicles anticipated for the landfill.
- Determine the physical environment on climate, air quality, wind, rainfall, evaporation and other geological & hydrological conditions which will affect the movement of windblown litter, dust, odor, and landfill gases.

Task 2 Environmental Analysis

Assess the environmental issues of the proposed SWM infrastructures, landfill, including the access road and its use, on the site and surrounding environment. Include assessment of traffic, noise, dust, odor, leachate, wastewater discharge, and landfill gas impacts on the environment including positive impacts (creation of jobs) impacts on aesthetic, historical, and cultural aspects, as appropriate.

The environmental analysis shall be preceding the detailed engineering design of the sanitary landfill including other SWM infrastructures, so that the design eventually incorporates mitigation measures and results in the most cost-effective sanitary landfill for local conditions.

The EIA will be prepared following the applicable Government of Bangladesh legal and environmental standards, procedural guidelines and requirements. Moreover, the consultant should also observe the

environmental requirements of SIDA. The Environmental assessment will be prepared with consideration of the general EIA approach from the as recommended by Bangladesh Government Ministry of Environment. The study shall cover an area of a radius of 1,000 meters from the boundary of the proposed landfill location for purposes of aesthetic, terrestrial, and atmospheric pollution issues. The study shall cover the watershed and aquifer areas from the landfill to any down gradient receiving water bodies (shallow and deep groundwater, as well as fresh and/or saltwater surface waters). Furthermore, the study shall include the receiving waters of the outfall from the wastewater treatment plant in which leachate shall be treated. The study area will include the route of direct waste haul and the landfill (i.e., across existing or planned roads) as well as the potential impact in neighboring communities, including farms.

The assessment will include, but not be limited to, the following information:

- Soil and geological information
- Hydrogeological information
- Estimation of leachate quantity and quality
- Estimation of landfill gas quantity and quality
- Traffic assessment
- Socio-economic information
- Assessment of the environmental impacts
- Development of mitigation measures for inclusion in the final design of the sanitary landfill's and other SWM infrastructure construction and operation

Task 3 Description of the Proposed Sanitary Landfills and other SWM infrastructure Project

The description should include:

Infrastructure of service area

- briefly describe the service area (number of inhabitants, residential areas, land use, including previous use over the last 20-50 years, industrial areas, transfer stations);
- determine the distance and direct haul routes and /or transfer routes from various waste collection points to the sanitary landfill, including any new access roads that may need to be built.

Surrounding environment of landfill location:

- determine and describe the demographic setting of the landfill location;
- describe the surrounding topography and land use characteristics and proximity to residential neighborhoods from the proposed landfill, including past land use patterns, whether agriculture, forestry, etc and impact of that use;
- determine and describe the overall direction of groundwater flow, drinking water recharge areas downstream of the location, and receiving waters into which groundwater and leachate treatment plant discharge;
- meteorological data regarding wind directions, precipitation and net infiltration.

Facts about the landfill development

- layouts, cross-sections, and construction details for the landfill, including all receiving facilities, landfill cell construction details, leachate and landfill gas collection and

- management facilities, mitigation measures, monitoring systems, and final closure plans;
- construction and operation schedules, including site preparation, cell construction, interim road development of each phase of landfill development;
- a description of the responsible parties, including organization structure and staffing for the landfill development;
- confirmation and consultation program with affected peoples in area;
- operational plans for waste types and quantities which might be allowed to be received;
- operation plans for handling of waste types and quantities which are not expected to be allowed to be received; including hazardous industrial wastes, untreated septic tank or cesspit contents, and surgical wastes;
- health and safety plans;
- final closure procedures; and
- monitoring plans (short- and long-term).

Task 4 - Description of the Environment

The environment shall be described through assembly, evaluation and presentation of baseline data on the following:

Physical environment:

- nature of surrounding environment (including homes, farms, forest areas, industry, small business enterprises and other establishments) and proximity to these;
- description of the existing topography and the proposed and areas which will be affected by any aesthetic impact;
- traffic conditions along the major haul routes between the waste centers and the proposed landfill at present and after implementation of the proposed landfill. The existing traffic conditions must be based on field survey; and proposed traffic patterns should be examine as well;
- determination of the geology of the area through a geological description of borings, soils samples, and geophysical surveys, as well as review of available literature and existing well logs on record for the region;
- determination of all groundwater recharge areas and use of groundwater down gradient from the landfill;
- condition and present and planned use of the receiving water and standards for discharge to the receiving water;
- determination of meteorological data (net infiltration, temperature variations and prevailing wind directions).

Biological environment:

- survey all major terrestrial flora and fauna on the landfill site;
- collect any information on sensitive habitats in the area and any rare, endangered or commercially important species;
- identify any nearby protected areas;
- delineate on-site wetlands by soils and plants.

Socio-cultural environment:

- identify any populations which may need to be resettled or compensated for losses in order to enable landfill development, including the use and compensation value of the properties which they own or inhabit; describe the sensitivity and difficulties of resettlement;
- describe any waste picking communities which may have livelihood disruption from closure of existing disposal sites due to implementation of the new landfill; describe the needs and difficulties of developing alternative livelihood;
- describe past and present use of the location and surrounding land and any historical, religious or cultural significance of the area;
- determine the demographic character of the surrounding neighborhoods and the sensitivity of the public to the proposed landfill, including perception to increased traffic, noise, dust, odor, and aesthetic appearance;
- other planned development activities on the location and in the nearby surroundings

Task 5 - Development of Monitoring Plans

Environmental Management Plan (EMP), based on the findings of the impact assessment and feedback from public consultations. For each impact identified, feasible and cost-effective mitigation measures should be proposed to reduce potentially significant adverse environmental impacts to acceptable levels. The capital and recurrent costs of the measures, and institutional, training and monitoring requirements to effectively implement these measures shall be determined. The EMP shall also outline different environmental enhancements including landscaping around proposed project, considerations to aesthetical appeal, provision pathways for species, greening the area, and development of cultural properties or improving access. In addition, the EMP should identify the need for further environmental studies or detailed plans for issues that cannot be fully dealt with during the project preparation stage but should be undertaken during project implementation.

The EMP should be divided into two sections:

- A.** A “project owner’s” version containing the comprehensive set of mitigation, management and monitoring measures, requirements, and institutional responsibilities for both construction and operation stages to fully address all identified impacts:

Each mitigation and management measure should be briefly described regarding the impact to which it relates, as well as an appropriate timeline for its implementation, indicators for measuring success, and budgetary requirements. In addition to environmental management measures, an occupational health and safety plan, community health and safety plan (including traffic safety), and emergency management plan, if necessary, should be prepared, among others to be identified by the consultant during the assessment process.

1. The EMP shall also include specific or sample plans, such as for management and redevelopment of quarries, borrow areas and construction camps.
2. The EMP shall include detailed specification, bill of quantities, execution drawings and contracting procedures for execution of the environmental mitigation and enhancement measures suggested, separate for pre-construction, construction and operation periods.
3. In addition, the EMP shall include good practice guides related to construction and upkeep of plant and machinery.
4. Responsibilities for execution and supervision of each of the mitigation and enhancement measures shall be specified in the EMP.

5. A plan for continued consultation, communications, and grievance management to be conducted during implementation stage of the project shall also be appended.
6. All mitigation and management measures shall be consistent with national requirements, applicable SIDA, UNDP SES policies, and Environment, Health and Safety (EHS) Guidelines.
7. Summary of the grievance management, consultation and communications aspects) shall also be included.
8. A monitoring program including indicators, parameters/thresholds, and locations, frequency and methodology for monitoring should also be included, to enable verification that mitigation measures have been successful.
9. Institutional arrangements and responsibilities for carrying out, monitoring, supervising and reporting on compliance with each mitigation and monitoring measure, as well as the arrangements for coordination between the various agencies responsible for implementation and management of the project.
10. Assessment of institutional capacity of the agencies responsible for EMP implementation, and recommendations for capacity-strengthening, training programs, etc. as needed.
11. This version would also include a summary of recommended design adjustments or measures which have been integrated into the detailed design studies being carried out in parallel.

B. A series of Site-Specific Environmental Management Plans (EMPs) tailored specifically for construction contractors/vendor/construction authorities for each of the bid packages, developed to be directly annexable to bidding documents and contracts. The EMPs shall be based on the full EMP and shall contain:

1. Site-specific measures pertaining to each road or bridge bid package
2. All other general construction-related environmental, health and safety management measures which are the responsibility of the contractor/vendor to implement
3. Specific cost estimate for EMP measures required of the contractor/vendor, to be included as a line item in the BOQ of the bid document;
4. Requirements for environmental management staffing and training by the contractor.

With the above EMP strategies, Set up a monitoring plan for the proposed landfill and other SWM infrastructures. The monitoring plan may comprise the following but not limited to:

- leachate quality and quantity before and after treatment;
- groundwater quality and level up-gradient and down-gradient from the landfill;
- landfill gas quality on-site and off-site;
- water quality up-gradient and down-gradient from the discharge point from the leachate treatment plant;
- construction materials and works (liner quality and integrity, drainage sand and gravel quality, pipes and joints, concrete quality, etc.)
- infrastructure safety plan from natural and man-made disaster

Set up a monitoring plan for the proposed Composting Units, SCP, MRF, Transportation System:

- compost production and final compost quality, leachate and odor control;
- waste collection, storage, segregation, transportation
- infrastructure safety plan from natural and man-made disaster

The monitoring plan shall make every effort to outline monitoring procedures and indicator parameters which are uncomplicated and inexpensive to conduct and easy to evaluate.

References

<https://www.adb.org/sites/default/files/linked-documents/45366-004-ieeab.pdf>

<https://oldweb.lged.gov.bd/UploadedDocument/DownloadFileGallery/51/SupRB-EIA%20ToR-Final.pdf>

Appendix B - Site Selection Criteria for Sanitary Landfills

Several countries (like Australia, Malaysia, Niger, North Dakota, Philippines, Uganda, and United States among others) have put in place guidelines for selecting suitable sites for sanitary landfills for waste management. These guidelines and policies act as the primary mechanism used to protect the environment and avoid nuisance to the host community. Below are the factors that several researchers (EPA, 1998; EPA, 2003; Malaysian Government, 1995 as quoted by Gaim, 2004; North Dakota Department of Health, 2002); Yaw et al., 2006) have used to determine the appropriateness of a site to be used as a sanitary landfill.

1. Site Capacity

A site should provide at least 5 years of use (at least 5 ha) in order to; minimize costs for site establishment and closure, smooth running of operations, and provision of adequate time for acquiring the next site.

2. Adjacent Land Uses or Land Cover

Location of a landfill facility should not endanger any environmentally sensitive areas or have a negative impact on existing or future land uses. Risks to public health and impacts on the areas surrounding the landfill can be limited by providing buffer zones between the landfill and sensitive areas. Several researchers have recommended appropriate buffer distances between a landfill facility and other land uses. for example; at least 100 metres from public roads, at least 500 metres from residential area. In some cases, for instance in case of Malaysia, land use types such as grassland, forests and cultivated land were considered appropriate for dumping except marshland and swamp type (Gaim, 2004).

3. Airports

The distance between an airport (because it attracts birds and associated risks of bird strike on aircraft engine) should be a minimum of 3km, unless there is a clear demonstration of bird control measures.

4. Surface Water

The distance between the areas dedicated for waste disposal and the nearest surface water (permanent or intermittent) or the 100 year flood plain should be a minimum of 100m. Sites that contain, or are located within 100 meters of; water supply catchments or ground water recharge areas, coastal or estuarine areas, are subject to tidal inundation or storm surge, wetlands, areas that may be seasonally inundated, or are likely to be flooded in a major rain event, water bodies (watercourses or open drains). Depending on the circumstances, high water table conditions may also render a site unsuitable for use as a landfill facility. This minimizes the risk of polluting water with leachate. However, North Dakota Department of Health (2002) recommends a minimum distance of 200 feet (equivalent to about 60 meters) to the nearest surface water, and Yaw et al., (2006) recommends 300 meters from any water body.

5. Groundwater

Major landfills are not encouraged where the interface between the engineered landfill liner and natural soils is within: 15 metres of unconfined aquifers bearing groundwater with less than 3000mg/L total dissolved salts, 5m of groundwater with a water quality of between 3,000 and 12,000mg/L total dissolved salts, 2m of groundwater with a water quality of over 12,000mg/L total dissolved salts. These separation zones apply to the seasonal high-water table (depth of drilling earth to get water) at the site. An extremely deep-water table

region is suitable so that underground water is not contaminated by the leachate of the waste. North Dakota Department of Health (2002) explains that the bottom of disposal trench should be at least four feet above the water table.

6. Topography

Landforms in the vicinity of the disposal site should be considered since they may influence; the type of disposal method that can be utilized, the suitability of the site for construction of service facilities, surface water drainage management, groundwater conditions, soil erosion risk, access to the site, ability to screen the site from view, and the impact of winds on the site. Preference is given to a landform that is in flat or undulating land. Other than on the site of a disused quarry, major landfills must not be sited in hilly areas, with ground slopes nominally greater than 10 percent. However, EPA (2003) recommends a slope less than 5 percent, and North Dakota Department of Health (2002) recommends 15 percent slope or less.

7. Soil

Soil structure should be suitable for construction of landfill cells and drainage works. The soil should also be of sufficiently low permeability to significantly slow the passage of leachate from the site. Sites in clay-rich environments are preferable, due to the low permeability, good workability and superior leachate retaining characteristics of these soils. Enough soil should be available to provide adequate covering for wastes.

8. Climate

Local climatic conditions should be considered when siting a waste disposal facility. For example; areas with heavy rainfall need extra care to avoid side effects of drainage and erosion, sites with prevailing winds require extra efforts to control litter and dust.

9. Unstable Areas

Major Landfills must not be located within 100 metres of an unstable area. Unstable areas can include poor foundation conditions, areas susceptible to mass movement, soft sandy and collapsible soils, and Karst terrains. North Dakota Department of Health (2002) supplements that environmentally sensitive or unstable areas do not provide safe, long-term waste disposal. Such areas include; wetlands, gravel pits, flood plains, and shallow water table areas. All these are environmentally sensitive to surface water and groundwater pollution. Ravines, woody draws, and steeply sloping terrains are unstable areas subject to accelerated erosion, which may expose the waste.

10. Infrastructure

Although landfills should have suitable transport access, with power and water available, landfills should not be located within 100 meters of any major highways, city streets or other transportation routes. Yaw et al., (2006) recommends 300 meters. However, it would be more cost efficient for landfills not to be located so far away in order to avoid high transportation costs.

11. Local Flora and Fauna

Sites that contain protected or endangered fauna and/or flora, or sensitive ecosystems are unsuitable for landfill facilities. Possible impacts on ecosystems, flora and fauna include the contamination of sensitive wetland areas by leachate. In addition, landfills often attract large numbers of birds, thus increasing the risk to public health by spreading scavenged items away from the landfill facility.

12. Distance from Environmentally Sensitive or Protected Areas

A landfill must not be near sensitive areas such as fish sanctuaries, mangrove areas and areas gazetted for special protection would be excluded. Therefore a 3,000 meters buffer is necessary to surround an environmentally sensitive area. However, EPA (1998) recommends that a buffer within the landfill of at least 500 metres width should be provided and maintained around the site. A lesser buffer within the landfill may be provided where it is considered compatible with the surrounding area and land uses so that there will be an effective buffer of 500 metres between the landfill and any potentially sensitive or incompatible land use.

13. Distance from Urban Areas

Landfills should not be placed too close to high-density urban areas in order to mitigate conflicts relating to the Not in My Back-Yard syndrome (NIMBY). This guards against health problems, noise complaints, odour complaints, decreased property values and mischief due to scavenging animals. Development of landfills shall

be prohibited within 3000 meters from village or rural settlements. According to EPA (2003) [9], a landfill site should be in an area which is at least 500 meters from an urban residential or commercial area. Yaw et al., (2006) [39] recommends 40 kilometers from a town.

14. Population

Gaim (2004) recommends that areas with a population density less than 200 is regarded as suitable for landfills.

References

Environment Protection Agency (1998). Guidelines for Major Solid Waste Landfill Depots in South Australia. <http://www.epa.sa.gov.au/pdfs/swlandfill.pdf>, Accessed on: 25th March 2006.

Environment Protection Agency (2003). Guidelines for the Siting, Design and Management of Solid Waste Disposal Sites in the Northern Territory. <http://www.nt.gov.au/nreta/environment/waste/codes/pdf/landfillguidelines.pdf>, Accessed on: 26th March 2006.

Gaim, J.K. (2004). GIS as Decision Support Tool for Landfills Siting. Proceedings of Map Asia 2004, Beijing, China. August 26-29.

North Dakota Department of Health - Division of Waste Management, (2002). Guide- line 14 Emergency Waste Disposal Variance Notification: Dead or Diseased Livestock. <http://www.health.state.nd.us>, Accessed on 20th May 2006.

Yaw, A.T. et al., (2006). Use of Geo-Spatial Data for Sustainable Management of Solid Waste in Niamey, Niger. Journal of Sustainable Development in Africa, 08(1): 203-210.

This TOR is approved by:



Marta Kucharski Duran
Project Manager, SWM Project
Date: 21 October 2021

Annex-4

Declaration

Date:

United Nations Development Programme

UNDP Registry, IDB Bhaban, Agargaon
Sher-E-Bangla Nagar, Dhaka, Bangladesh

Assignment _____

Reference: RFP-BD-CXB-2021-006

Dear Sir,

I declare that is not in the UN Security Council 1267/1989 List, UN Procurement Division List or Other UN Ineligibility List.

Yours Sincerely,