Terms of References (ToR)

For

Assessing the potential for augmentation of local water resources through ground water recharge and rain water harvesting at Rajshahi city in Bangladesh under the project on ‘Accelerating climate action through the promotion of Urban Low Emission Development Strategies (Urban-LEDS II)

About the project

The Rajshahi City Corporation (RCC) and ICLEI-Local Governments for Sustainability, South Asia (hereafter referred as ICLEI South Asia) are implementing a project on ‘Accelerating climate action through the promotion of Urban Low Emission Development Strategies (Urban-LEDS II)’ in Rajshahi city supported by European Commission and UN Habitat. This project aims to reduce greenhouse gas (GHG) emissions and support the climate actions at local level by the promotion of Urban Low Emission Development Strategies (Urban LEDS) in cities/towns of emerging economies (Brazil, Colombia, India, Indonesia and South Africa) and Least Developed Countries (Bangladesh, Lao PDR and Rwanda). This objective is aligned with the implementation of the Paris Agreement under the UNFCCC.

About Rajshahi city

Rajshahi city, one of the key administrative divisions of Bangladesh is situated on the bank of River Padma. Geographically, city is located within the Barind Tract and 23 meters above of the mean sea level. The city is located on the alluvial planes of River Padma, which flows from the southern side of the city. The area of Rajshahi city is 97.18 sq. km. and it is situated 256 km away from the capital city Dhaka. Under the Köppen climate classification¹, Rajshahi has a tropical wet and dry climate. The climate is generally marked with high temperature, considerable humidity and moderate rainfall. Rajshahi city receives average annual rainfall of about 1441 mm² spread over the months from February to November. As per the Bangladesh Bureau of Statistics (BBS), Rajshahi city has population of 448,087 persons as of year 2011 with about 99,097 households. The population in the city area is estimated to be around 0.8 million in 2020.

Background

Rajshahi City Corporation (RCC) administers delivery and infrastructure for urban services in the city. RCC is encountering challenges in delivery of basic municipal

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² Data collected from Ishurwardi meteorological station for the period 1961 to 2013
services like water supply due to urbanization and increasing population\(^3\). Since 2011, the Rajshahi Water Supply and Sewerage Authority (RWASA) is responsible for providing water supply and water treatment facilities for RCC and nearby areas. About 96% of the RWASA water supply is sourced from ground water through 103 tube wells and the remaining from Padma River (a fresh water source), to fulfil about 66% of the total water demand of Rajshahi city. This scenario of higher dependency on ground water puts the city population vulnerable to the climate change impacts and to over exploitation of natural resources.

Rajshahi city’s GHG emission inventory, prepared under the Urban LEDS II project, indicates that water supply is one of the major energy consuming municipal services. The city’s climate risk and vulnerability assessment highlighted water supply as one of the key services that could potentially get disrupted due to climate change\(^4\). Stakeholders mentioned that the groundwater table is declining rapidly over the last few years and found it to be contaminated with coliform and heavy metals like Arsenic\(^5\). To address this problem, it is planned under the Urban LEDS II project to showcase replicable interventions and develop overall strategy for enhancing resilience of the city, ensuring sustained use of natural resources. Hence, it is proposed to assess the potential for augmentation of local water resources in Rajshahi city and to implement a rain water harvesting and ground water recharge system at a selected establishment as a pilot intervention.

In this regard, ICLEI South Asia seeks consultancy from expert(s) (individual/organization/consortium) to assess the potential for augmentation of local water resources through ground water recharge and rain water harvesting at Rajshahi city. This project will be implemented by ICLEI South Asia, in collaboration with Rajshahi City Corporation (RCC). The details of work are mentioned in the following table.

Details of the consultancy service

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Title</th>
<th>Details</th>
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<tbody>
<tr>
<td>A</td>
<td>Task</td>
<td>Assessing the potential for augmentation of local water resources through ground water recharge and rain water harvesting at Rajshahi. Location: Rajshahi City Corporation (RCC), Bangladesh</td>
</tr>
</tbody>
</table>

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\(^4\) Climate Risk and Vulnerability Assessment by ICLEI South Asia under the Urban LEDS II project

Overall scope of the work

The scope of above mentioned task is as following:

a) Hydro-geological baseline study of the city and demarcation of micro-catchments/drainage pattern

b) Detailed assessment of aquifer characteristics including analysis of groundwater levels and quality at selected locations (minimum eight locations)

c) Selection of two (2) public buildings/sites owned by RCC (tentatively identified as RCC head office as one of them) and in-depth feasibility study for groundwater recharge as well as rainwater harvesting for reuse (in non-drinking purposes) after necessary treatment.

d) Preparation of Request for Proposal (RfP) documents for demonstrating pilot project along with cost estimates and necessary working designs, drawings, documents. Assistance to select a contractor for implementation and supervision during implementation.

e) City-wide plan of various solutions and suitable locations for augmentation of local water resources through groundwater recharge and rainwater harvesting along with a monitoring and evaluation plan

Description of the scope

a) Hydro-geological baseline study of the city and demarcation of micro-catchments/drainage pattern

Hydro-geological study shall include detailed assessment of city’s catchment area based on existing available data/information and delineation of micro-watershed maps based on drainage patterns using DEM data and geomorphological maps. Secondary data collection on groundwater assessment, aquifer characteristics, drainage pattern, lithologs and study of hydrographs. This task shall also comprise of rainfall data - trend analysis and review of available hydrogeological/ground water studies for the city.

b) Detailed assessment of aquifer characteristics including analysis of groundwater levels and quality at selected locations (minimum eight locations)

It is expected to record ground water levels and analyze
ground water quality twice in project duration at minimum eight (8) locations within Rajshahi City Corporation (RCC) area representing entire city. One or two locations may be considered for dual sampling also. The sites shall be selected based on various parameters finalized in consultation with ICLEI South Asia and RCC officials. The groundwater quality analysis shall consider heavy metals/trace elements in addition to general physical, chemical and biological parameters as mentioned in Annexure II. Bidder can propose additional parameters based on relevance to local context and facility for analysis. In addition, bidder can suggest other relevant tests like ground water draft/yield, ground profiling/Fracture Density Analysis, DRIT etc. The second part of this task shall include developing aquifer maps (to depict levels and quality) based on periodic analysis of groundwater. This study should prepare aquifer maps; identify possible contaminants, their potential sources and remedies to control the same.

c) Selection of two (2) public buildings/sites owned by RCC (tentatively identified as RCC head office as one of them) and in-depth feasibility study for groundwater recharge as well as rainwater harvesting for reuse in other than drinking activities after necessary treatment.

In general, it is envisaged to prioritize and select potential site/s for aquifer recharge in the city for overall city wide plan. While conducting this study it is proposed to consider two buildings/sites (including RCC head office) for detailed study and implementation of a replicable, demonstrative system to showcase benefits of ground water recharge and rainwater harvesting. For this purpose selected bidder has to study water quality in the premises, water demand, runoff generation and structural assessment for implementing such system. In addition, technological review of available filtration and recharge systems shall be provided. A detailed report shall be prepared for in-depth feasibility assessment of groundwater recharge as well as rainwater harvesting for reuse in other than drinking activities after necessary treatment. The report shall also present the various technological options, financial viability and designs of suggested systems. Recommended solutions should ensure the permissible quality of infiltrated water as prescribed by local/regional authorities, through adequate filtration mechanisms.
d) Preparation of Request for Proposal (RfP) documents for demonstrating pilot project along with cost estimates and necessary working designs, drawings, documents. Assistance to select a contractor for implementation and supervision during implementation.

Selected bidder is expected to prepare detailed RfP document including terms of reference (ToR) and bill of quantities (BoQ) for the selected two sites based on the feedback by ICLEI South Asia and RCC officials for the technologies, designs, locations etc. The cost estimates should be according to the applicable local (project area) guidelines/LGED Schedule of Rates 2019. This ground level implementation is to demonstrate effective means of ground water recharge and rain water harvesting, including quality of infiltrated water having replication potential.

It should be noted that a separate contractor/firm will be selected for implementation of the pilot, through the RfP document prepared under this assignment. ICLEI South Asia will lead the contracting process of this separate contractor/firm for implementation. Selected bidder is expected to assist the project team in selection of said contractor/firm for implementation and to then supervise and oversee the implementation to achieve intended benefits.

A training program should be conducted jointly for hands on training to RCC officials for operation and maintenance of the system. Selected bidder shall assist ICLEI South Asia and RCC for maintenance of the structure.

e) City-wide plan of various solutions and suitable locations for augmentation of local water resources through ground water recharge and rain water harvesting along with a monitoring and evaluation plan

This task includes drafting a city wide plan for rain water harvesting and ground water recharge on the basis of prioritized areas, strategies, technological recommendations and supporting rough estimates. The recommendations for aquifer recharge and rain water harvesting methods should be based on rainfall pattern, various land use areas, structures and consumption patterns. Standard designs specific to priority locations (depending on the hydrogeology of the area) to enable wider adoption of rainwater harvesting and ground water recharge at the city level are also sought.
General/standard designs and guidance for rain water harvesting and ground water recharge structures in different types of locations like large buildings, paved parking lots, thoroughfare, public spaces etc shall also included under this section.

A detailed monitoring and evaluation framework should be prepared based on various technologies suitable for local conditions for post implementation assessment. This framework will also consider operation and maintenance, responsibility matrix, IEC and communication with various stakeholders to increase the effectiveness and efficiency of various measures to augment local water resources through ground water recharge and rain water harvesting.

<table>
<thead>
<tr>
<th>D</th>
<th>Tasks and Deliverables</th>
<th>Time line</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>1) A baseline assessment report of ground water scenario in Rajshahi city</td>
<td>Within one and half (1.5) months from the award of contract</td>
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<tr>
<td></td>
<td>2) A report on in-depth feasibility study for groundwater recharge as well as rainwater harvesting for reuse in other than drinking activities after necessary treatment.</td>
<td>Within two and half (2.5) months from the award of contract</td>
</tr>
<tr>
<td></td>
<td>3) RfP document for demonstrating pilot project along with its cost estimates, to be used by ICLEI South Asia to hire a separate contractor/firm for pilot implementation</td>
<td>Within three (3) months from the award of contract</td>
</tr>
<tr>
<td></td>
<td>4) A report on groundwater levels and quality assessed at selected locations and aquifer maps showing distribution of various parameters over the city.</td>
<td>Within three and half (3.5) months from the award of contract</td>
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<tr>
<td></td>
<td>5) Supervision during implementation of pilot project, maintenance of the structure and training for RCC officials on operation and maintenance of</td>
<td>Within six (6) months from the award of contract</td>
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<thead>
<tr>
<th>D</th>
<th>Project Deliverables and time frame</th>
<th>Tasks and Deliverables</th>
<th>Time line</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>1) A baseline assessment report of ground water scenario in Rajshahi city</td>
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<td>Within six (6) months from the award of contract</td>
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the pilot project.

6) Development of City-wide plan for augmentation of local water resources through ground water recharge and rain water harvesting considering reuse of rainwater for other drinking activities (including monitoring and evaluation framework)

**Note:** Selection of another contractor/firm to carry out pilot project implementation (contracting to be done by ICLEI South Asia) and on-ground implementation of said pilot (supervised by selected consultant under this ToR) is sought to happen between tasks no. 4 and 5 of section D: “Project Deliverables and time frame”, i.e. over a period of 2.5 months and within 6 months from award of contract

<table>
<thead>
<tr>
<th>E</th>
<th>Payment schedule</th>
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<tr>
<td></td>
<td>First installment (20%): At the time of signing the contract</td>
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<tr>
<td></td>
<td>Second installment: (40%): Satisfactory completion and acceptance by ICLEI South Asia and RCC of deliverables 1 to 4 as mentioned in ‘section D – Deliverables and timeframe’ of this document</td>
</tr>
<tr>
<td></td>
<td>Third installment (40%): Satisfactory completion and acceptance by ICLEI South Asia and RCC of deliverable 5 and 6 as mentioned in ‘section D – Deliverables and timeframe’ of this document</td>
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<th>F</th>
<th>Methodology</th>
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<tr>
<td>The consultancy will entail a combination of comprehensive desk reviews and document analysis; baseline data collection and analysis, consultations with key stakeholders, site visits, field work etc.</td>
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<th>G</th>
<th>Qualification and experience</th>
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<tbody>
<tr>
<td>The consultant should qualify for the following minimum qualifications and experience:</td>
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**Eligibility**

Individual/organization/consortium can bid for this contract. At least two of the following conditions are required to satisfy as eligibility for this ToR. In case of consortium each partner individually is required to satisfy the eligibility criterion.

1. Minimum 10 years of experience for the similar consultancy/tasks/projects related to groundwater recharge/ground water assessment/rainwater harvesting, watershed analysis etc.
2. Successful completion of at least five relevant projects with
the ULBs/Local Government Engineering Department (LGED)/private sectors/NGOs on groundwater recharge/ground water assessment/rainwater harvesting/watershed analysis in last 3 years, particularly for technical evaluation and design. Consultants should furnish the self-attested copy of work orders for these works and a copy of certificates for satisfactory construction of these plants/facilities from the same Institution. Photographs of the work implemented should also be submitted.

3. Minimum turnover of BDT 50 lakh or INR 50 lakh during the last 2 years would be required in case of organization(s) and minimum of 3 Utilization Certificates or other completion documents for projects completed in last 2 years.

Additional information

1) Experience of working in the city/region/country would be an additional benefit.
2) The consultant shall demonstrate ability to effectively work and manage similar projects of consultancy.
3) Experience of on-ground implementation of similar projects as envisaged in this ToR will be an additional benefit.
4) The consultant shall demonstrate strong understanding of the field related to this ToR along with academic background of at least masters in relevant fields.
5) In case of consortium a lead partner shall be defined and the same will be responsible for all the deliverables.

Details required in proposal:

Technical Bid:

Technical bid shall cover following points.

1. Proposal with approach and methodology for undertaking the current assignment. Detailed work plan (activity schedule and duration) to accomplish the task within the scheduled project duration.
2. Credentials of organization(s) and or individual
3. Details of at least 3 similar previous projects implemented by the organization(s)/individual with documentary proof for the same
4. National registration certificate/Registration certificate with relevant statutory department
5. Valid NID card or related documents to proof nationality
6. VAT registration (if organisation) and up-to-date TIN certificate
7. Audited accounts statements for last 3 years
8. CVs of key personnel along with time distribution should be given. All relevant CVs shall be provided in full detail. If the CV of a proposed staff is found incorrect, the award of the consultancy to the bidder may also be liable to cancellation in such an event.
9. Proposal/bid Submission Form (Annexure I)

Financial bid:

Financial bid shall cover following points.
1. Financial bid for the tasks listed in the ToR document. The total cost should include all the expenses for required to complete all the tasks mentioned in this ToR. Financial bids should be inclusive of all taxes, travel and per-diem costs etc.
2. Item wise break up for all components
3. Financial details of the organization(s) to confirm its eligibility

Note: All Technical and Financial bids should preferably be in English. Financial bid should include all costs including taxes, transport, labour, etc. and should be all inclusive. Bidders are encouraged to visit the site before submission of bid. Soft copy of the proposal/bid document (technical and financial) should be mailed to ICLEI South Asia on the contact details mentioned in this document no later than 30th September 2020.

Qualified individual/organization/consortium should send cover letter, two sets of the technical and financial proposals (in separate envelopes) to the contact information provided in this ToR document in hard copy within three days of the last date of soft copy bid submission. Please send your application with “Assessing the potential for augmentation of local water resources through ground water recharge and rain water harvesting at Rajshahi” in the subject line and on a sealed envelope.

Please note:
 a) The bidder shall acquaint with the work and working conditions at site and locality. No claim shall be entertained on this issue after the bid has been submitted.
 b) The hard copy of bid document shall reach to the above
mentioned address not later than 3 days from the last date of submission of bid document, provided the bid has been submitted through email before the due date of submission. (Relaxation may be given to submit the hard copies subject to lockdown guidelines in concerned city due to pandemic situation)

**c) Bid Validity:** All bids submitted shall remain valid for a period of 60 days from the time of submission. Any bids submitted for a lesser duration can be disqualified.

**d) Notification of selected consultant:** The bid shall remain open for a total of 15 days from the day of floating the ToR. Only the successful/shortlisted consultant(s) would be notified.

<table>
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<tr>
<th>Contact information</th>
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<tbody>
<tr>
<td><strong>For bid submission (soft copy):</strong></td>
<td></td>
</tr>
<tr>
<td>i) Soumya Chaturvedula, Deputy Director, ICLEI South Asia, Email: <a href="mailto:soumya.chaturvedula@iclei.org">soumya.chaturvedula@iclei.org</a></td>
<td></td>
</tr>
</tbody>
</table>
| ii) **Md. Jubaer Rashid**  
Manager – Bangladesh Operations, ICLEI South Asia  
E-mail: jubaer.rashid@iclei.org |  |
| iii) Bhaskar Padigala, Deputy Manager (Energy & Climate), ICLEI South Asia, Email: bhaskar.padigala@iclei.org |  |

**For bid submission (physical/hard copy):**

**Md. Jubaer Rashid**  
Manager – Bangladesh Operations, ICLEI South Asia  
House – 12 (Flat 2B), Road – 20, Nikunja – 2, Khilkhet, Dhaka – 1229, Bangladesh  
Phone: +880 1819 866766  
E-mail: jubaer.rashid@iclei.org  
Website: [http://southasia.iclei.org/](http://southasia.iclei.org/)

**For local information and queries:**

**Md. Jubaer Rashid**  
Manager – Bangladesh Operations, ICLEI South Asia  
House – 12 (Flat 2B), Road – 20, Nikunja – 2, Khilkhet,
Other terms and conditions

1) The Terms of Reference (ToR) shall be downloaded free of cost from the ICLEI South Asia website.

2) The bid shall be valid for a period of 60 days from the date of submission of bid document.

3) A bidder shall submit the bid documents that satisfies each and every condition laid down in this notice, failing which, the bid will be liable to be rejected by ICLEI South Asia.

4) In case the bidder wishes to sub-contract part of his deliverables, the final responsibility of delivery and performance solely lies with the bidder.

5) Selected consultant has to deliver expertise and assist project team which will be consists of the representatives of ICLEI South Asia and officials of RCC.

6) Selected consultant (individual/organization/consortium) is expected to perform the activities as mentioned in the section ‘C’ and provide deliverables as mentioned in the section ‘D’ following the methodology prescribed in the section ‘F’ of this ToR.

7) The consultant is allowed to propose amendments to the methodology, when they find it necessary. Actual amendment in methodology will be in force only after written approval from ICLEI South Asia.

8) The bidder shall be deemed to have carefully examined the work and site conditions’. In this regard, he/she will be given necessary information to the best of knowledge of ICLEI South Asia in consultation with RCC but without any guarantee to it.

9) If applicant has any doubt as to the meaning of any portions of these general contract terms, or the scope of the work, or any other matter concerning the contract, he/she shall in good time, before submitting his/her proposal, set forth the particulars thereof and submit them to the point of contact, as given in this ToR, by email in order that such doubts may be clarified authoritatively before tendering. Once a proposal is submitted, the matter will be decided according to the ToR conditions in the absence of such authentic pre clarification.

10) All applications will be treated in the strictest confidence and only successful candidates will be contacted for further discussions.

11) The technical and financial proposals should be submitted as separate documents.

12) In case the winning bidder fails to indicate his/her intent to undertake the said work within the stipulated time of seven (7) days and observe the formalities.
as above, the Letter of Intent will be cancelled and the next bidder will be finalised by ICLEI South Asia in consultation with RCC officials.

13) ICLEI South Asia reserves all the rights to reject any proposal, and to terminate the selection process and reject all proposals at any time, without thereby incurring any liability to the affected applicant or any obligation to inform the affected applicants of the grounds for such decision.

14) It should be noted that the consultant has to work in Rajshahi City Corporation’s jurisdiction, Bangladesh and hence instructions to bidders will be given by ICLEI South Asia in consultation with RCC officials.

15) ICLEI South Asia will be overall in-charge for all the works that would be executed under the present scope of work.

16) The applicant shall also obtain necessary permissions from concerned government departments related to the work/data collection if deemed necessary and in coordination with RCC and ICLEI South Asia.

17) All data and information received from RCC and ICLEI South Asia for the purpose of this assignment are to be treated confidentially and are only to be used in connection with the execution of these Terms of Reference.

18) The contents of written materials obtained and used in this assignment may not be disclosed to any third parties without written approval from ICLEI South Asia and/or RCC.

19) The decision of ICLEI South Asia will be final and binding.

20) The proposals received will be scrutinized and evaluated by the ICLEI – South Asia in consultation with RCC.

21) Detailed Work Order will be issued to winning applicant within fifteen (15) days of announcing the results.

22) The selected applicant is to forward the signed and sealed work order to ICLEI at the earliest or not more than seven (7) working days from the date of issuing work order.

23) If found suitable, ICLEI South Asia reserves the right to propose formation of consortium or divide the scope of this ToR among the bidders with their mutual consent based on their expertise to improve overall quality of work.

24) The bidders should agree that any matter or issues arising hereunder or any dispute hereunder shall be subject to the exclusive jurisdiction of the courts of situated at New Delhi, India.

**Extension of date of completion**

On occurrences of any events causing delay as stated hereunder, the bidder shall intimate immediately in writing to ICLEI South Asia.

**Materials/Appliance at site**

Neither ICLEI South Asia nor RCC undertakes any responsibility for supply of any materials/ equipment/ appliance/ tool for site analysis to the bidder.
All materials/ equipment/ tools brought to site by the bidder shall be the responsibility of the bidder. RCC and ICLEI South Asia shall extend help as and when approached by the bidder to keep any materials/ equipment/ appliance/ tool, however not liable for any loss, theft or damage due to fire or other cause, the responsibility for which shall lie entirely on the bidder.

Final Inspection of Work
RCC and ICLEI South Asia team shall jointly make final inspection/review of all work included in the contract/work order, or any portion thereof, or any completed structure forming part of the work of the contract, as soon as practicable after notification by the bidder that the work is completed and ready for acceptance.

Conflict Resolution
In case of a conflict, the same would be addressed through mutual discussions. In case the conflict cannot be mutually sorted, the ICLEI South Asia’s decision would be final and binding.

Termination of Contract
In case the consultant is unable to perform as per the expectations of the project team and/or project cities, the contract of the consultant can be terminated based on mutual consent. In case of contract termination, the consultant would be paid on the basis of deliverables completed to the satisfaction of ICLEI South Asia.

Force Majeure
In case of extraordinary events under force majeure (Natural phenomena, including but not limited to abnormally bad weather, unprecedented flood and draught, earthquakes & epidemics, political upheaval, strikes, lockouts, acts of any Government (domestic/foreign) including but not limited to war, properties, and quarantine embargoes), the terms of contract can be redrafted through mutual consent. In such cases, none of the parties can be held liable under the Contract.
Annexure I: Proposal/Bid Submission Form

To
Executive Director
ICLEI-Local Governments for Sustainability, South Asia
New Delhi – 110016

I/We have read and examined the terms of reference (ToR) documents relating to “Assessing the potential for augmentation of local water resources through ground water recharge and rain water harvesting at Rajshahi” under the project ‘Urban-LEDS II’ including the main tender document and Annexure I.

I/We hereby submit our proposal for execution of the work/consultancy referred to in the aforesaid documents in accordance with the terms and conditions contained or referred to therein and in accordance in all respects with the specifications, designs, drawings and other relevant details at the rates furnished in the bid document and within the period(s) of completion as stipulated in Annexure documents and our proposal.

If I/We fail to keep the proposal open as aforesaid of make any modifications in the terms and conditions of the proposal which are not acceptable to ICLEI South Asia or after signing of contract are unable to provide work or services to the satisfaction of ICLEI South Asia as per the terms of the contract and annexure documents, I/We agree that ICLEI South Asia shall without prejudice to any other right, be at liberty to forfeit earnest money absolutely. Should this proposal be accepted, I /We agree to abide by & fulfil all the terms conditions of aforesaid document and the annexure documents.

If after the proposal is accepted, I/we fail to commence the execution of the work, I/We agree that ICLEI South Asia shall without prejudice to any other right or remedy is at liberty to forfeit the said earnest money absolutely.

Signature and stamp of applicant…………………………

Name…………………………………………………………..

Organization…………………………………………………

Date and place…………………………………. 
Annexure II: List of mandatory parameters for ground water quality analysis*

<table>
<thead>
<tr>
<th>Physical parameters</th>
<th>Chemical parameters</th>
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<tbody>
<tr>
<td>1 Colour in Hazen units and odour</td>
<td>1 Dissolved Oxygen (DO)</td>
</tr>
<tr>
<td>2 Electrical conductivity</td>
<td>2 Zinc (as Zn)</td>
</tr>
<tr>
<td>3 pH value</td>
<td>3 Ammonical nitrogen (as N),</td>
</tr>
<tr>
<td>4 Turbidity, NTU</td>
<td>4 Calcium (as Ca)</td>
</tr>
<tr>
<td>5 Total dissolved solids (TDS)</td>
<td>5 Iron (as Fe)</td>
</tr>
<tr>
<td>6 Total suspended solids (TSS)</td>
<td>6 Chloride (as Cl)</td>
</tr>
<tr>
<td>7 Temperature</td>
<td>7 Copper (as Cu)</td>
</tr>
<tr>
<td>8 Oil and grease</td>
<td>8 Fluoride (as F)</td>
</tr>
<tr>
<td><strong>Biological parameters</strong></td>
<td><strong>Toxic substances</strong></td>
</tr>
<tr>
<td>1 E. coli or thermotolerant coliform bacteria</td>
<td>9 Free residual chlorine</td>
</tr>
<tr>
<td>2 Total coliform bacteria</td>
<td>10 Magnesium (as Mg)</td>
</tr>
<tr>
<td><strong>Toxic substances</strong></td>
<td>11 Manganese (as Mn)</td>
</tr>
<tr>
<td>1 Lead (as Pb)</td>
<td>12 Nitrate (as NO₃)</td>
</tr>
<tr>
<td>2 Total arsenic (as As)</td>
<td>13 Sulphate (as SO₄)</td>
</tr>
<tr>
<td>3 Total chromium (as Cr)</td>
<td>14 Total alkalinity as calcium carbonate</td>
</tr>
<tr>
<td>4 Mercury (as Hg)</td>
<td>15 Total hardness (as CaCO₃)</td>
</tr>
<tr>
<td>5 Cadmium (as Cd)</td>
<td>16 Total Kjeldahl Nitrogen (as NH₃) mg/l, Max</td>
</tr>
<tr>
<td>6 Cyanide (as CN)</td>
<td>17 Phosphorus Ortho Phosphate (as P)</td>
</tr>
<tr>
<td>7 Nickel (as Ni)</td>
<td></td>
</tr>
</tbody>
</table>

*Note: In addition to above parameters bidder can suggest other parameters of importance based on relevance and local context.