

## REQUEST FOR QUOTATION (RFQ)

RFQ Reference: <b>RFQ/206/IND 2020</b>	Date: 12 November 2020
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**Subject: Supply, Installation and Commissioning of battery backed Solar PV system for powering of Smart Livelihood Centre.**

### SECTION 1: REQUEST FOR QUOTATION (RFQ)

UNDP kindly requests your quotation for the provision of works as detailed in Annex 1 of this RFQ.

This Request for Quotation comprises the following documents:

Section 1: This request letter

Section 2: RFQ Instructions and Data

Annex 1: Schedule of Requirements

Annex 2: Quotation Submission Form

Annex 3: Technical and Financial Offer

When preparing your quotation, please be guided by the RFQ Instructions and Data. Please note that quotations must be submitted using Annex 2: Quotation Submission Form and Annex 3 Technical and Financial Offer, by the method and by the date and time indicated in Section 2. It is your responsibility to ensure that your quotation is submitted on or before the deadline. Quotations received after the submission deadline, for whatever reason, will not be considered for evaluation.

Thank you and we look forward to receiving your quotations.

Issued by:

Signature: \_\_\_\_\_

Name: Arun Arumughan

Title: Procurement Analyst

Date: 12 November 2020

## SECTION 2: RFQ INSTRUCTIONS AND DATA

Introduction	<p>Bidders shall adhere to all the requirements of this RFQ, including any amendments made in writing by UNDP. This RFQ is conducted in accordance with the <a href="#">UNDP Programme and Operations Policies and Procedures (POPP) on Contracts and Procurement</a></p> <p>Any Bid submitted will be regarded as an offer by the Bidder and does not constitute or imply the acceptance of the Bid by UNDP. UNDP is under no obligation to award a contract to any Bidder as a result of this RFQ.</p> <p>UNDP reserves the right to cancel the procurement process at any stage without any liability of any kind for UNDP, upon notice to the bidders or publication of cancellation notice on UNDP website.</p>
Deadline for the Submission of Quotation	<p>November 23, 2020</p> <p>If any doubt exists as to the time zone in which the quotation should be submitted, refer to <a href="http://www.timeanddate.com/worldclock/">http://www.timeanddate.com/worldclock/</a>.</p> <p>For eTendering submission - as indicated in eTendering system. Note that system time zone is in EST/EDT (New York) time zone.</p> <p>PLEASE NOTE: -</p> <ol style="list-style-type: none"> <li><u>Date and time visible on the main screen of event (on e-tendering portal) will be final and prevail over any other closing time indicated elsewhere</u>, in case they are different. Please also note that the bid closing time shown in the PDF file generated by the system is not accurate due to a technical glitch that we will resolve soon. The correct bid closing time is as indicated in the e-tendering portal and system will not accept any bid after that time. It is the responsibility of the bidder to make sure bids are submitted within this deadline. UNDP will not accept any bid that is not submitted directly in the system.</li> <li>Try to submit your bid a day prior or well before the closing time. Do not wait until last minute. If you face any issue submitting your bid at the last minute, UNDP may not be able to assist.</li> </ol>
Method of Submission	<p>Quotations must be submitted as follows:</p> <p><input checked="" type="checkbox"/> E-tendering</p> <p>Bid submission address: Online UNDP E-tendering Portal</p> <ul style="list-style-type: none"> <li>File Format: PDF files only</li> <li>File names must be maximum 60 characters long and must not contain any letter or special character other than from Latin alphabet/keyboard.</li> <li>All files must be free of viruses and not corrupted.</li> <li>Max. File Size per transmission: 10 MB</li> <li>It is recommended that the entire Quotation be consolidated into as few attachments as possible.</li> <li>The bidder should receive an email acknowledging email receipt.</li> </ul> <p>[For eTendering method, click the link <a href="https://etendering.partneragencies.org">https://etendering.partneragencies.org</a> ]</p> <p>Detailed instructions on how to submit, modify or cancel a bid in the eTendering system are provided in the eTendering system Bidder User Guide and Instructional videos available on this link: <a href="http://www.undp.org/content/undp/en/home/operations/procurement/business/procurementnotices/resources/">http://www.undp.org/content/undp/en/home/operations/procurement/business/procurementnotices/resources/</a></p>

Cost of preparation of quotation	UNDP shall not be responsible for any costs associated with a Supplier's preparation and submission of a quotation, regardless of the outcome or the manner of conducting the selection process.
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Supplier Code of Conduct, Fraud, Corruption,	<p>All prospective suppliers must read the United Nations Supplier Code of Conduct and acknowledge that it provides the minimum standards expected of suppliers to the UN. The Code of Conduct, which includes principles on labour, human rights, environment and ethical conduct may be found at: <a href="https://www.un.org/Depts/ptd/about-us/un-supplier-code-conduct">https://www.un.org/Depts/ptd/about-us/un-supplier-code-conduct</a></p> <p>Moreover, UNDP strictly enforces a policy of zero tolerance on proscribed practices, including fraud, corruption, collusion, unethical or unprofessional practices, and obstruction of UNDP vendors and requires all bidders/vendors to observe the highest standard of ethics during the procurement process and contract implementation. UNDP's Anti-Fraud Policy can be found at <a href="http://www.undp.org/content/undp/en/home/operations/accountability/audit/office_of_audit_an_dinvestigation.html#anti">http://www.undp.org/content/undp/en/home/operations/accountability/audit/office_of_audit_an_dinvestigation.html#anti</a></p>
Gifts and Hospitality	<p>Bidders/vendors shall not offer gifts or hospitality of any kind to UNDP staff members including recreational trips to sporting or cultural events, theme parks or offers of holidays, transportation, or invitations to extravagant lunches, dinners or similar. In pursuance of this policy, UNDP: (a) Shall reject a bid if it determines that the selected bidder has engaged in any corrupt or fraudulent practices in competing for the contract in question; (b) Shall declare a vendor ineligible, either indefinitely or for a stated period, to be awarded a contract if at any time it determines that the vendor has engaged in any corrupt or fraudulent practices in competing for, or in executing a UNDP contract.</p>
Conflict of Interest	<p>UNDP requires every prospective Supplier to avoid and prevent 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, specifications, cost estimates, and other information used in this RFQ. Bidders shall strictly avoid conflicts with other assignments or their own interests, and act without consideration for future work. Bidders found to have a conflict of interest shall be disqualified.</p> <p>Bidders must disclose in their Bid their knowledge of the following: a) If the owners, part-owners, officers, directors, controlling shareholders, of the bidding entity or key personnel who are family members of UNDP staff involved in the procurement functions and/or the Government of the country or any Implementing Partner receiving goods and/or services under this RFQ.</p> <p>The eligibility of Bidders that are wholly or partly owned by the Government shall be subject to UNDP's further evaluation and review of various factors such as being registered, operated and managed as an independent business entity, the extent of Government ownership/share, receipt of subsidies, mandate and access to information in relation to this RFQ, among others. Conditions that may lead to undue advantage against other Bidders may result in the eventual rejection of the Bid.</p>
General Conditions of Contract	<p>Any Purchase Order or contract that will be issued as a result of this RFQ shall be subject to the General Conditions of Contract</p> <p><input checked="" type="checkbox"/> <a href="#">General Terms and Conditions for Works</a></p> <p>Applicable Terms and Conditions and other provisions are available at <a href="#">UNDP/How-we-buy</a></p>
Special Conditions of Contract	<p><input checked="" type="checkbox"/> Cancellation of PO/Contract if the delivery/completion is delayed by [8 Weeks]</p>

Eligibility	<p>A vendor who will be engaged by UNDP may not be suspended, debarred, or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization. Vendors are therefore required to disclose to UNDP whether they are subject to any sanction or temporary suspension imposed by these organizations. Failure to do so may result in termination of any contract or PO subsequently issued to the vendor by UNDP.</p> <p>It is the Bidder's responsibility to ensure that its employees, joint venture members, sub-contractors, service providers, suppliers and/or their employees meet the eligibility requirements as established by UNDP.</p>
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	Bidders must have the legal capacity to enter a binding contract with UNDP and to deliver in the country, or through an authorized representative.
Currency of Quotation	<p>Quotations shall be quoted in:</p> <p>Preferred Currency of Bid : Indian Rupees (INR)</p> <p>Bids in other currency also allowed.</p> <p>Reference date for determining UN Operational Exchange Rate : Date of bid submission.</p>
Joint Venture, Consortium or Association	<p>If the Bidder is a group of legal entities that will form or have formed a Joint Venture (JV), Consortium or Association for the Bid, they shall confirm in their Bid that : (i) they have designated one party to act as a lead entity, duly vested with authority to legally bind the members of the JV, Consortium or Association jointly and severally, which shall be evidenced by a duly notarized Agreement among the legal entities, and submitted with the Bid; and (ii) if they are awarded the contract, the contract shall be entered into, by and between UNDP and the designated lead entity, who shall be acting for and on behalf of all the member entities comprising the joint venture, Consortium or Association.</p> <p>Refer to Clauses 19 – 24 under <a href="#">Solicitation policy</a> for details on the applicable provisions on Joint Ventures, Consortium or Association.</p>
Only one Bid	<p>The Bidder (including the Lead Entity on behalf of the individual members of any Joint Venture, Consortium or Association) shall submit only one Bid, either in its own name or, if a joint venture, Consortium or Association, as the lead entity of such Joint Venture, Consortium or Association.</p> <p>Bids submitted by two (2) or more Bidders shall all be rejected if they are found to have any of the following:</p> <ul style="list-style-type: none"> <li>a) they have at least one controlling partner, director or shareholder in common; or</li> <li>b) any one of them receive or have received any direct or indirect subsidy from the other/s; or</li> <li>c) they have the same legal representative for purposes of this RFQ; or</li> <li>d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about, or influence on the Bid of, another Bidder regarding this RFQ process;</li> <li>e) they are subcontractors to each other's Bid, or a subcontractor to one Bid also submits another Bid under its name as lead Bidder; or</li> <li>f) some key personnel proposed to be in the team of one Bidder participates in more than one Bid received for this RFQ process. This condition relating to the personnel, does not apply to subcontractors being included in more than one Bid.</li> </ul>

Duties and taxes	<p>Article II, Section 7, of the Convention on the Privileges and Immunities provides, inter alia, that the United Nations, including UNDP as a subsidiary organ of the General Assembly of the United Nations, is exempt from all direct taxes, except charges for public utility services, and is exempt from customs restrictions, duties, and charges of a similar nature in respect of articles imported or exported for its official use. All quotations shall be submitted net of any direct taxes and any other taxes and duties, unless otherwise specified below:</p> <p>All prices must:</p> <p><input type="checkbox"/> be inclusive of GST and other applicable indirect taxes</p> <p><input checked="" type="checkbox"/> be exclusive of GST and other applicable indirect taxes</p>
Language of quotation	<p>English</p> <p>Including documentation including catalogues, instructions and operating manuals.</p>
Documents to be submitted	<p>Bidders shall include the following documents in their quotation:</p> <p><input checked="" type="checkbox"/> Annex 2: Quotation Submission Form duly completed and signed</p> <p><input checked="" type="checkbox"/> Annex 3: Technical and Financial Offer duly completed and signed and in accordance with the Schedule of Requirements in Annex 1</p> <p><input checked="" type="checkbox"/> Company Profile.</p> <p><input checked="" type="checkbox"/> Registration certificate;</p> <p><input checked="" type="checkbox"/> Documents showing that the bidder has an experience of a minimum of Five (5) years and have executed at least one similar assignment – proof of purchase/work order is to be submitted plus client's contact details who may be contacted for further information on those contracts;</p> <p><input checked="" type="checkbox"/> The agency should have experience of design, supply, installation and commissioning of Grid connected/off grid Solar PV Power Plant having capacity not less than 15 KWp and experience of rendering operation and maintenance services for Solar PV units.</p> <p><input checked="" type="checkbox"/> The agency should have experience of working in Jharkhand.</p> <p><input checked="" type="checkbox"/> Statement of satisfactory Performance (Certificates) from the top two clients in terms of Contract value in similar field;</p>
Quotation validity period	<p>Quotations shall remain valid for 90 days from the deadline for the Submission of Quotation.</p>
Price variation	<p>No price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted at any time during the validity of the quotation after the quotation has been received.</p>
Partial Quotes	<p><input checked="" type="checkbox"/> Not permitted</p>
Alternative Quotes	<p><input checked="" type="checkbox"/> Not permitted</p>
Payment Terms	<p>Within 30 days upon UNDP's acceptance and receipt of invoice. (Please also refer to payment terms under Annex 1 – Schedule of Requirements).</p>

Conditions for Release of Payment	<input checked="" type="checkbox"/> Written Acceptance of Goods, Services and Works, based on full compliance with RFQ requirements <input checked="" type="checkbox"/> Completion of Training on Operation and Maintenance.
Contact Person for correspondence, notifications and clarifications	<p>E-mail address: <a href="mailto:manikandan.srinivasan@undp.org">manikandan.srinivasan@undp.org</a></p> <p><b>Attention: Quotations shall not be submitted to this address but to the address for quotation submission above (through e-tendering portal only). Otherwise, offer shall be disqualified.</b></p> <p><b>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.</b></p>
Clarifications	Requests for clarification from bidders will not be accepted any later than 3 days before the submission deadline. Responses to request for clarification will be communicated thru email/ Posted directly to eTendering portal.
Evaluation method	<input checked="" type="checkbox"/> The Contract or Purchase Order will be awarded to the lowest price substantially compliant offer
<b>Evaluation criteria</b>	<input checked="" type="checkbox"/> Full compliance with all requirements as specified in Annex 1 <input checked="" type="checkbox"/> Full acceptance of the General Conditions of Contract <p><u>Compliance on the following requirements</u></p> <input checked="" type="checkbox"/> Registration certificate; <input checked="" type="checkbox"/> Documents showing that the bidder has an experience of a minimum of Five (5) years and have executed at least one similar assignment – proof of purchase/work order is to be submitted plus client's contact details who may be contacted for further information on those contracts; <input checked="" type="checkbox"/> Statement of satisfactory completion (Certificates) from the top two clients in terms of Contract value in similar field; <input checked="" type="checkbox"/> The agency should have experience of design, supply, installation and commissioning of Grid connected/off grid Solar PV Power Plant having capacity not less than 15 KWp and experience of rendering operation and maintenance services for Solar PV units. <input checked="" type="checkbox"/> The agency should have experience of working in Jharkhand.
Right not to accept any quotation	UNDP is not bound to accept any quotation, nor award a contract or Purchase Order
Right to vary requirement at time of award	At the time of award of Contract or Purchase Order, <a href="#">Click or tap here to enter text.</a> 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.
Type of Contract to be awarded	<input checked="" type="checkbox"/> Purchase Order / Contract

Expected date for contract award.	December 01, 2020
Publication of Contract Award	UNDP will publish the contract awards valued at USD 100,000 and more on the websites of the CO and the corporate UNDP Web site.
Policies and procedures	This RFQ is conducted in accordance with <a href="#">UNDP Programme and Operations Policies and Procedures</a>
UNGM registration	<p>Any Contract resulting from this RFQ exercise will be subject to the supplier being registered at the appropriate level on the United Nations Global Marketplace (UNGM) website at <a href="http://www.ungm.org">www.ungm.org</a>.</p> <p>The Bidder may still submit a quotation even if not registered with the UNGM, however, if the Bidder is selected for Contract award, the Bidder must register on the UNGM prior to contract signature.</p>

## **ANNEX 1: SCHEDULE OF REQUIREMENTS**

### **Hiring of agencies for “Supply, Installation and Commissioning of battery backed Solar PV system for powering of Smart Livelihood Centre”**

#### **Background:**

In partnership with the Ministry of Environment Forest and Climate Change (MoEFCC), and with support from the Global Environment Facility (GEF), UNDP is implementing a project on ‘Market Transformation and Removal of Barriers for Effective Implementation of the State Level Climate Change Action Plan’ in the state of Jharkhand and Manipur, with the aim to reduce greenhouse gas emissions achieved through the implementation of key renewable energy and energy efficiency (RE/EE) solutions at the state level.

Pervasive incidence of poverty (Jharkhand with Multidimensional Poverty Index of 0.208 has the second highest MPI in the country after Bihar) and deteriorating income from farm and nonfarm sector in rural areas has in turn imparting negative effect on the interest over farm and non-farm livelihood opportunities, resulting in migration of rural population and deteriorated overall social wellbeing. It is in this context endeavor has been made towards empowering of the underprivileged members of vulnerable communities/groups through institutionalizing of livelihood opportunities by enabling access to clean, reliable and affordable energy.

Access to clean and reliable energy has been a major bottleneck in the rural areas of Jharkhand. Although electrified, availability of quality power is limited to few hours in the day across rural pockets forbidding growth of enterprise opportunities. Moreover, electrification provisioned in rural areas under “Saubhagya scheme” has only catered the domestic demand with little and/or limited provision for powering of enterprise/productive load. It is in this backdrop UNDP has incubated “solarized livelihood enterprise option” across rural areas in partnership with the community. Eight of such interventions incubated in Jharkhand with SHGs has created livelihood opportunities for more than hundred underprivileged and disadvantaged women.

Department of Forest, Environment and Climate Change Government of Jharkhand (State nodal partner of UNDP in implementation of the “Market Transformation Project”) is implementing the climate change adaptation project ‘Enhancing Climate Resilience of Forests and its Dependent Communities in two Landscapes of Jharkhand’ sanctioned under the National Adaptation Fund for Climate Change (NAFCC). The project institutionalized with the goal of enhancing the adaptative capacity and built resilience of the forest infringe community across two landscapes encompassing 48 villages, includes key component of promoting gender sensitive and climate resilient livelihood systems. However, access to reliable and quality power in the project areas is jeopardizing the operation of the livelihood interventions. It is in this context UNDP is extending support towards solarization of the livelihood interventions (detailed out in the subsequent section below). Successful operationalization of the livelihood intervention because of access to clean energy is expected to boost the investment confidence of the community and propel technology dissemination.

Since most of the livelihood interventions/productive loads as implemented are periodical/seasonal in nature, strategy has been made to create “Smart Livelihood Centre” which will include multiple productive loads. Each of the proposed “Smart Livelihood Centre” will have two to three type of productive loads to be operated at different time.



The locations of the “Smart Livelihood Centre” and the productive loads to be powered through battery backed Solar PV units are

Smart Centre	Livelihood	Productive Load	Location	Proposed Solar PV Capacity
Smart Centre -1	Livelihood	Maize Peeling Machine, Multi Spice grinding machine, E-seva cum training facilities	Village - Palu/ Hariharpur Block -Patratu District - Ramgarh	5 kW
Smart Centre -2	Livelihood	Maize Peeling Machine, Multi Spice grinding machine, Sal Leaf plate making machine	Village – Soliya Block -Patratu District - Ramgarh	5 kW
Smart Centre -3	Livelihood	Maize Peeling Machine, Multi Spice grinding machine	Village – Borwa/ Bhaiyadih Block-Narayanpur, District - Jamtara	5 kW
Smart Centre -4	Livelihood	Maize Peeling Machine, Multi Spice grinding machine, Sal Leaf plate making machine	Village – Gaditand, Block-Narayanpur, District - Jamtara	5 kW

### Objective

The objective of the assignment is to supply, install and commission battery backed solar power system towards provisioning access of reliable and affordable clean energy for operationalization of the productive load within the smart livelihood centre. The assignment is also planned to install computer system at one of the smart livelihoods centre for training of communities and provisioning them with access to e-governance and other digital services.

### Scope of Work

**Component A: Supply, installation and commissioning of Solar PV system for Solarization of four numbers of smart livelihood centre and facilitate the comprehensive maintenance of the system for the period of two years form the date of commissioning.**

1. Supply, installation (civil work, erection, testing) and Commissioning of Solar PV System across four Smart Livelihood centre.

Smart Livelihood Centre	Solar PV system Mounting	Bill of Quantity
Smart Livelihood Centre -1	Ground Mounting /Roof top Mounting	<ol style="list-style-type: none"> <li>1. 5 KW PV Module Multi Crystalline -1 Lot</li> <li>2. Hybrid Solar Inverter with MPPT Charge Controller- 5 KVA or above – 1 Nos</li> <li>3. Solar Tall Tubular Battery 150 Ah, C-10 rating – 8 Nos.</li> <li>4. Module mounting structure, Battery trolley, fasteners/nut bolts -etc - as required</li> <li>5. Cable, Cable connector, Earthing kit, Array Junction Box as per IS standard- as required.</li> </ol>
Smart Livelihood Centre -2	Ground Mounting /Roof top Mounting	<ol style="list-style-type: none"> <li>1. 5 KW PV Module Multi Crystalline -1 Lot</li> <li>2. Hybrid Solar Inverter with MPPT Charge Controller- 5 KVA or above – 1 Nos</li> <li>3. Solar Tall Tubular Battery 150 Ah, C-10 rating – 8 Nos.</li> <li>4. Module mounting structure, Battery trolley, fasteners/nut bolts -etc - as required</li> <li>5. Cable, Cable connector, Earthing kit, Array Junction Box as per IS standard- as required.</li> </ol>
Smart Livelihood Centre -3	Ground Mounting /Roof top Mounting	<ol style="list-style-type: none"> <li>1. 5 KW PV Module Multi Crystalline -1 Lot</li> <li>2. Hybrid Solar Inverter with MPPT Charge Controller- 5 KVA or above – 1 Nos</li> <li>3. Solar Tall Tubular Battery 150 Ah, C-10 rating – 8 Nos.</li> <li>4. Module mounting structure, Battery trolley, fasteners/nut bolts -etc - as required</li> <li>5. Cable, Cable connector, Earthing kit, Array Junction Box as per IS standard- as required.</li> </ol>
Smart Livelihood Centre -4	Ground Mounting /Roof top Mounting	<ol style="list-style-type: none"> <li>1. 5 KW PV Module Multi Crystalline -1 Lot</li> <li>2. Hybrid Solar Inverter with MPPT Charge Controller- 5 KVA or above – 1 Nos</li> <li>3. Solar Tall Tubular Battery 150 Ah, C-10 rating – 8 Nos.</li> <li>4. Module mounting structure, Battery trolley, fasteners/nut bolts -etc - as required</li> <li>5. Cable, Cable connector, Earthing kit, Array Junction Box as per IS standard- as required.</li> </ol>

As part of the system installation commissioning the selected agency should ensure proper synchronization with the productive loads and ensure its operation.

**Note:**

- The offered PV Modules should be Crystalline Silicon PV Modules as per IEC 61215 Standards or IS14286. In addition, the modules must conform to IEC 61730 part I –requirement for construction and part – II requirement for testing, for safety qualification or equivalent IS. The offered modules shall be of standard make; specifications of any reputed brand approved by MNRE and shall also satisfy the minimal technical requirements /standards for SPV systems in India.
- The rating of each individual module should not be less than 250Wp at Standard Test conditions (Higher ratings can be used) and shall meet following minimum requirement: (i) Efficiency of module  $\geq 15\%$  (ii) Fill factor shall be greater than 70%
- Batteries should fulfil the requirement as per specification given at Technical Specification for Capacity Test Charge/Discharge efficiency Self-Discharge as per MNRE requirements. The

offered batteries shall be standard make, specifications of any reputed brand approved and certified by MNRE. Battery shall conform as per IEC 61427 and / relevant IS specifications as per MNRE requirements

- d. The successful bidder shall be required to meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning. PR should be shown minimum of 75% for Grid connected plant at the time of inspection for initial commissioning.
- e. Array output will be fed to PCU which consists of MPPT based Charge Controller, Inverter, Voltage Stabilizer and distribution panel along with necessary Displays, Indicators and Alarms and major protections and should conforming to IEC 61683/ IS 61683 Standard for efficiency measurement should conform to IEC 60068-2(1, 2, 14, 30) or equivalent BIS standard for environmental testing.
- f. The mounting structure shall be of HDGI/anodised aluminium and shall be as per relevant standards and shall withstand the wind load of 150 Km/hour or as per IS 875. Use of Aluminium profiles shall be considered depending on design considerations and subject to withstanding wind load criteria. Factor of safety for designing shall be considered minimum 1.5 times
- g. Bolts, nuts, fasteners used in the MMS shall be minimum SS 304.
- h. The support structure angle should be of dimension 50x50x5mm. The minimum thickness of galvanization shall be at least 80 microns. Fixing fasteners shall be of Stainless steel, all nuts & bolts stainless steel. Legs assembly shall be of MS Hot Dip galvanized pipes after fabrication/Anodised Aluminium. Mounting structure shall have anodized aluminium /MS hot dip galvanized GI/ C Channel etc.
- i. The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.
- j. If installed on terrace - the minimum clearance of the lowest part of the module / module structure and the terrace shall not be less than 300 mm.
- k. The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.
- l. Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single / double compression cable glands. It should be placed at 5 feet height or above for ease of accessibility.
- m. Each Junction Box shall have High quality Suitable capacity SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.
- n. All fuses shall have DIN rail mountable fuse holders and shall be housed in thermoplastic IP 65 enclosures with transparent covers
- o. Cables of appropriate size to be used in the system shall have the following characteristics: (i) Shall meet IEC 60227/IS 694, IEC 60502/IS 1554 standards (ii) Temp. Range: -10°C to +80°C. (III) Voltage rating 660/1000V (IV) Excellent resistance to heat, cold, water, oil, abrasion, UV radiation, Flexible (v) Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum (2%) (VI) For the DC cabling, XLPE or, XLPO insulated and sheathed, UV-stabilized single core multi-stranded flexible copper cables shall be used; Multi-core cables shall not be used (VII) For the AC cabling, PVC or, XLPE insulated and PVC sheathed single or, multi-core multistranded flexible copper cables shall be used; Outdoor AC cables shall have a UV-stabilized outer sheath (VIII) The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. Outer sheath of cables shall be electron beam cross-linked XLPO type and black in colour (IX) The DC cables from the SPV

module array shall run through a UV-stabilized PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm (X) Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers (XI) In three phase systems, the size of the neutral wire size shall be equal to the size of the phase wires.

- p. All the relevant parameters of PCU should be available for remote monitoring over internet using GPRS (2G,3G & 4G enabled) based monitoring solution. PCU shall have GPRS (2G,3G & 4G enabled) capability based on SIM card which shall be provided by the bidder. The monthly charge of SIM card for the period of two years should be included as part of the financial proposal.
- q. Each array structure of the PV system should be grounded/earthed properly using adequate number of earthing kits as per IS: 3043-1987. In addition the lightning arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of Department/JREDA as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly. Earth conductor size should not be less than 16 sq. mm cu cable or equivalent. All electrical component (i.e. DCDB, ACDB, Battery, etc.) body earthing should be done in SPV plant. Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential. The earthing resistance values shall conform to relevant IS/ Indian electricity rules.

**The agency needs to submit relevant documents towards compliance of the above standard.**

- 2. The selected agency should undertake preventive/routine maintenance of the system at least once in every month and shall include activities such as, cleaning and checking the health of the SPV system, cleaning of module surface, tightening of all electrical connections, regular checks to identify any leakage of electricity, cleaning & greasing of battery terminals and any other activity that may be required for proper functioning of the Solar Photovoltaic Power Plant for the period of two years from the date of commissioning.
- 3. The agency needs to provide mandatory Comprehensive Maintenance service for the period of two years from the date of commissioning. The Comprehensive Maintenance shall include servicing & replacement guarantee for parts and components (such as battery, electronics, Inverter, PV modules and other hardware) of the Rooftop/ground mounted SPV Power Plant for three years from the date of installation. PV modules shall be warranted for 25 years. Battery should be warranted for a minimum life of 5 years. For any issue related to operation & maintenance, a contact number shall be made available to the concerned forest office to resolve immediately, if the selected agency do not attempt the rectification of any such defect within three days of communication of such complaint to the bidders, necessary action will be initiated against the selected bidders.
- 4. The supplier shall arrange for transit and erection insurance of the materials & equipment's for setting up of Solar Photovoltaic System. In case of any theft or damage of equipment during erection period the same will be responsibility of supplier to get it rectify at their own cost.
- 5. The selected agency will require to undertake training of resource at each of the "Smart livelihood Centre" on operation and Maintenance of the Solar PV units. Printed leaflet/literature should be made available in Hindi by the agency regarding the operation and maintenance of their Solar PV unit.
- 6. In case of availability of grid connection near the smart livelihood centre, the selected agency needs to facilitate grid synchronization via net meter so that extra power exported to the utility grid through the bidirectional meter which records the net energy exported to the grid during the nonoperational period of the productive load. The agency shall take the entire responsibility of electrical safety of the installations including connectivity with the grid and follow all the safety rules and regulations

applicable as per Indian Electricity Act-2003 and CEA guidelines.

7. The agency should supply and install display board at each of the four livelihood centre mentioning the details about the project. The Board should be of minimum 4ft by 3ft size. The details to be printed on the board along with the design and logos will be provided by UNDP.

**Note: The technical proposal should encompass detailed specifications, including make, complying standards, relevant test certificate as applicable for each of the component proposed to be supplied by the agency under the tender in line with the table below.**

Sr.	Particulars	Quantity	Detailed Specification	Make	Complying standard	Period of Warranty
1	SPV modules					
2	Mounting arrangement for Solar module					
3	Solar module frame material					
4	Weather resistant HDPE junction Box					
5	Inverter (Hybrid)					
6	Module Mounting Structure (MMS)					
7	ACDB, DCDB & Junction Boxes					
8	Cables					
9	Batteries including battery voltage					

**Component B: Supply, installation and commissioning of computer hardware kit at one number of Smart Livelihood Centre to facilitate training of community**

The agency needs to supply the following components at one of the smart Livelihood Centre. The computer hardware system will be used for the training of community and rendering of digital service.

Sr.	Details of supply
1	Pre-loaded desktop PC with keyboard, mouse, wireless connecting interface and external sound system, intel i3 processor latest/10 gen, 1TB storage, 8 GB RAM. The system should have preloaded original windows, and Microsoft office and other software and drivers as is required for the purpose of rendering of training
2	UPS
3	Computer Screen 43"
4	A4 size laser Printer

**Note: The agency needs to specify in details the system architecture, hardware specification (of each components), software as part of the technical proposal.**

### **Timeline and Payment Terms**

<b>Deliverable (for each agency)</b>	<b>Timeline (from the date of award of contract)</b>	<b>Payment Terms</b>
Inception report	1 week	20%
Supply of Materials as proposed under Component A and B	4 weeks	30%
Installation, erection, testing and commissioning of the units proposed under Component A and B	7 weeks	30%
Training of resources on operation and maintenance of the Solar PV unit	8 weeks	20%

### **Team Composition**

- 1. Team Leader** – Engineer with at-least 10 years of experience in installation of grid interactive and off-grid system
- 2. System installers** – Persons with required skills of installation of Solar PV unit and synchronization

### Note:

1. The rates shall include for all costs associated with the goods.
2. The supplier will be responsible for protection of materials, property and equipment before successful delivery and handover to UNDP.

### **Delivery Requirements**

<b>Delivery Requirements</b>	
<b>Delivery date and time</b>	Bidder shall complete the works within 60 days from issuance of Contract.
<b>Delivery Terms (INCOTERMS 2020)</b>	DAP
<b>Customs clearance (must be linked to INCOTERM)</b>	Shall be done by: <input checked="" type="checkbox"/> Supplier/bidder
<b>Exact Address(es) of Delivery Location(s)</b>	Detailed addresses will be provided at the time of award of contract.

Distribution of shipping documents (if using freight forwarder)	Not Applicable
Packing Requirements	Not Applicable
Training on Operations and Maintenance	As per the schedule of requirements
Warranty Period	As per the schedule of requirements
After-sales service and local service support requirements	As per the schedule of requirements
Preferred Mode of Transport	

## **ANNEX 2: QUOTATION SUBMISSION FORM**

Bidders are requested to complete this form, including the Company Profile and Bidder's Declaration, sign it and return it as part of their quotation along with Annex 3: Technical and Financial Offer. The Bidder shall fill in this form in accordance with the instructions indicated. No alterations to its format shall be permitted and no substitutions shall be accepted.

Name of Bidder:	Click or tap here to enter text.	
RFQ reference:	RFQ/206/IND 2020	Date: Click or tap to enter a date.

### Company Profile

Item Description	Detail
Legal name of bidder or Lead entity for JVs	Click or tap here to enter text.
Legal Address, City, Country	Click or tap here to enter text.
Website	Click or tap here to enter text.
Year of Registration	Click or tap here to enter text.
Legal structure	Choose an item.
Are you a UNGM registered vendor?	<input type="checkbox"/> Yes <input type="checkbox"/> No      If yes, insert UNGM Vendor Number

Quality Assurance Certification (e.g. ISO 9000 or Equivalent) (If yes, provide a Copy of the valid Certificate):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Does your Company hold any accreditation such as ISO 14001 or ISO 14064 or equivalent related to the environment? (If yes, provide a Copy of the valid Certificate):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Does your Company have a written Statement of its Environmental Policy? (If yes, provide a Copy)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Does your organization demonstrate significant commitment to sustainability through some other means, for example internal company policy documents on women empowerment, renewable energies or membership of trade institutions promoting such issues (If yes, provide a Copy)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Is your company a member of the UN Global Compact	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Bank Information	Bank Name: Click or tap here to enter text. Bank Address: Click or tap here to enter text. IBAN: Click or tap here to enter text. SWIFT/BIC: Click or tap here to enter text. Account Currency: Click or tap here to enter text. Bank Account Number: Click or tap here to enter text.			
Previous relevant experience				
Name of previous contracts	Client & Reference Contact Details including e-mail	Contract Value	Period of activity	Types of activities undertaken



# Bidder's Declaration

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Requirements and Terms and Conditions: I/We have read and fully understand the RFQ, including the RFQ Information and Data, Schedule of Requirements, the General Conditions of Contract, and any Special Conditions of Contract. I/we confirm that the Bidder agrees to be bound by them.
<input type="checkbox"/>	<input type="checkbox"/>	I/We confirm that the Bidder has the necessary capacity, capability, and necessary licenses to fully meet or exceed the Requirements and will be available to deliver throughout the relevant Contract period.
<input type="checkbox"/>	<input type="checkbox"/>	Ethics: In submitting this Quote I/we warrant that the bidder: has not entered into any improper, illegal, collusive or anti-competitive arrangements with any Competitor; has not directly or indirectly approached any representative of the Buyer (other than the Point of Contact) to lobby or solicit information in relation to the RFQ ;has not attempted to influence, or provide any form of personal inducement, reward or benefit to any representative of the Buyer.
<input type="checkbox"/>	<input type="checkbox"/>	I/We confirm to undertake not to engage in proscribed practices, , or any other unethical practice, with the UN or any other party, and to conduct business in a manner that averts any financial, operational, reputational or other undue risk to the UN and we have read the United Nations Supplier Code of Conduct : <a href="https://www.un.org/Depts/ptd/about-us/un-supplier-code-conduct">https://www.un.org/Depts/ptd/about-us/un-supplier-code-conduct</a> and acknowledge that it provides the minimum standards expected of suppliers to the UN.
<input type="checkbox"/>	<input type="checkbox"/>	Conflict of interest: I/We warrant that the bidder has no actual, potential, or perceived Conflict of Interest in submitting this Quote or entering a Contract to deliver the Requirements. Where a Conflict of Interest arises during the RFQ process the bidder will report it immediately to the Procuring Organisation's Point of Contact.
<input type="checkbox"/>	<input type="checkbox"/>	Prohibitions, Sanctions: I/We hereby declare that our firm, its affiliates or subsidiaries or employees, including any JV/Consortium members or subcontractors or suppliers for any part of the contract is not under procurement prohibition by the United Nations, including but not limited to prohibitions derived from the Compendium of United Nations Security Council Sanctions Lists and have not been suspended, debarred, sanctioned or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization.
<input type="checkbox"/>	<input type="checkbox"/>	Bankruptcy: I/We have not declared bankruptcy, are not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against them that could impair their operations in the foreseeable future.
Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Offer Validity Period: I/We confirm that this Quote, including the price, remains open for acceptance for the Offer Validity.
<input type="checkbox"/>	<input type="checkbox"/>	I/We understand and recognize that you are not bound to accept any Quotation you receive, and we certify that the goods offered in our Quotation are new and unused.
<input type="checkbox"/>	<input type="checkbox"/>	By signing this declaration, the signatory below represents, warrants and agrees that he/she has been authorised by the Organization/s to make this declaration on its/their behalf.

Signature: \_\_\_\_\_

Name: Click or tap here to enter text.

Title: Click or tap here to enter text.

Date: Click or tap to enter a date.

### ANNEX 3: TECHNICAL AND FINANCIAL OFFER – GOODS

Bidders are requested to complete this form, sign it and return it as part of their quotation along with Annex 2 Quotation Submission Form. The Bidder shall fill in this form in accordance with the instructions indicated. No alterations to its format shall be permitted and no substitutions shall be accepted.

Name of Bidder:	Click or tap here to enter text.	
RFQ reference:	RFQ/206/IND 2020	Date: Click or tap to enter a date.

#### Technical Offer

Provide the following:

- a brief description of your qualification and capacity that is relevant to the Scope of Work; -
- a brief method statement and implementation plan;

**The technical proposal should encompass detailed specifications, including make, complying standards, relevant test certificate as applicable for each of the component proposed to be supplied by the agency under the tender in line with the table below.**

Sr.	Particulars	Quantity	Detailed Specification	Make	Complying standard	Period of Warranty
1	SPV modules					
2	Mounting arrangement for Solar module					
3	Solar module frame material					
4	Weather resistant HDPE junction Box					
5	Inverter (Hybrid)					
6	Module Mounting Structure (MMS)					
7	ACDB, DCDB & Junction Boxes					
8	Cables					
9	Batteries including battery voltage					

**Financial Offer**

**Component A:** Supply, installation and commissioning of Solar PV system for Solarization of four numbers of smart livelihood centre and facilitate the comprehensive maintenance of the system for the period of two years form the date of commissioning.

Supply, installation (civil work, erection, testing) and Commissioning of Solar PV System across four Smart Livelihood Centre.

Smart Livelihood Centre	Solar PV system Mounting	Bill of Quantity	Amount (in INR)
Smart Livelihood Centre -1	Ground Mounting /Roof top Mounting	<ol style="list-style-type: none"> <li>1. 5 KW PV Module Multi Crystalline -1 Lot</li> <li>2. Hybrid Solar Inverter with MPPT Charge Controller- 5 KVA or above – 1 Nos</li> <li>3. Solar Tall Tubular Battery 150 Ah, C-10 rating – 8 Nos.</li> <li>4. Module mounting structure, Battery trolley, fasteners/nut bolts -etc - as required</li> <li>5. Cable, Cable connector, Earthing kit, Array Junction Box as per IS standard- as required.</li> </ol>	
Smart Livelihood Centre -2	Ground Mounting /Roof top Mounting	<ol style="list-style-type: none"> <li>1. 5 KW PV Module Multi Crystalline -1 Lot</li> <li>2. Hybrid Solar Inverter with MPPT Charge Controller- 5 KVA or above – 1 Nos</li> <li>3. Solar Tall Tubular Battery 150 Ah, C-10 rating – 8 Nos.</li> <li>4. Module mounting structure, Battery trolley, fasteners/nut bolts -etc - as required</li> <li>5. Cable, Cable connector, Earthing kit, Array Junction Box as per IS standard- as required.</li> </ol>	
Smart Livelihood Centre -3	Ground Mounting /Roof top Mounting	<ol style="list-style-type: none"> <li>1. 5 KW PV Module Multi Crystalline -1 Lot</li> <li>2. Hybrid Solar Inverter with MPPT Charge Controller- 5 KVA or above – 1 Nos</li> <li>3. Solar Tall Tubular Battery 150 Ah, C-10 rating – 8 Nos.</li> <li>4. Module mounting structure, Battery trolley, fasteners/nut bolts -etc - as required</li> <li>5. Cable, Cable connector,</li> </ol>	

Smart Livelihood Centre	Solar PV system Mounting	Bill of Quantity	Amount (in INR)
		Earthing kit, Array Junction Box as per IS standard- as required.	
Smart Livelihood Centre -4	Ground Mounting /Roof top Mounting	<ol style="list-style-type: none"> <li>1. 5 KW PV Module Multi Crystalline -1 Lot</li> <li>2. Hybrid Solar Inverter with MPPT Charge Controller- 5 KVA or above – 1 Nos</li> <li>3. Solar Tall Tubular Battery 150 Ah, C-10 rating – 8 Nos.</li> <li>4. Module mounting structure, Battery trolley, fasteners/nut bolts -etc - as required</li> <li>5. Cable, Cable connector, Earthing kit, Array Junction Box as per IS standard- as required.</li> </ol>	

**Component B: Supply, installation and commissioning of computer hardware kit at one number of Smart Livelihood Centre to facilitate training of community**

The agency needs to supply the following components at one of the smart Livelihood Centre. The computer hardware system will be used for the training of community and rendering of digital service.

Sr.	Details of supply	Amount (in INR)
1	Pre-loaded desktop PC with keyboard, mouse, wireless connecting interface and external sound system, intel i3 processor latest/10 gen, 1TB storage, 8 GB RAM. The system should have preloaded original windows, and Microsoft office and other software and drivers as is required for the purpose of rendering of training	
2	UPS	
3	Computer Screen 43"	
4	A4 size laser Printer	

**Note: The agency needs to specify in details the system architecture, hardware specification (of each components), software as part of the technical proposal.**

**Consolidated Table**

Sl. No.	BRIEF DESCRIPTION OF GOODS	TOTAL PRICE DAP (Incoterm 2010) FINAL DESTINATION (all inclusive) (INR)
1.	Cost of materials as proposed under Component A	
2.	Cost of materials as proposed under Component B	
3.	Others, if any	
	<b>Total</b>	

**Note: The total of Component A and Component B should match with the total in above consolidated table.**

**Compliance with Requirements**

	You Responses		
	Yes, we will comply	No, we cannot comply	If you cannot comply, pls. indicate counter - offer
Delivery Lead Time	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Validity of Quotation	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Payment terms	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Other requirements [pls. specify]	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.

I, the undersigned, certify that I am duly authorized to sign this quotation and bind the company below in event that the quotation is accepted.	
Exact name and address of company Company Name: Click or tap here to enter text. Address: Click or tap here to enter text. Click or tap here to enter text. Phone No.: Click or tap here to enter text. Email Address: Click or tap here to enter text.	Authorized Signature: Date: Click or tap here to enter text. Name: Click or tap here to enter text. Functional Title of Authorised Signatory: Click or tap here to enter text. Email Address: Click or tap here to enter text.