**Template for the Simplified Feasibility Study (SFS) Report: Individual Solar Irrigation Project (ISIP)**

When preparing the simplified feasibility report for ISIP, please ensure to incorporate the following information:

|  |  |
| --- | --- |
| Date: |  |
| Time of site visit: |  |

**Project Information:**

|  |  |
| --- | --- |
| Project name: |  |
| District: |  |
| Local government name: |  |
| Ward no./tole: |  |
| Farmer representative name and number: |  |
| Local government representative name and number: | Ward office  Rural municipality  Name: ......................................................................................  Number: ................................................................................... |
| Availability of mobile network (for real-time monitoring if needed): | NTC  Ncell  Others, specify: ……………………. |
| Information about the travel route and the type of road: | Type of road access:  Tarmac  Gravel  Dirt, with vehicle access  Dirt, with no vehicle access  Description of the route from the project site to the local government office, district headquarters, or the nearest market:  ...................................................................................................  ...................................................................................................  ................................................................................................... |
| **Please share the exact location of the site by providing its latitude, longitude, and altitude.** | |
| Water source: | Latitude: ................................ Longitude: ................................ |
| Solar array installation area: | Latitude: ................................ Longitude: ................................ |
| Irrigation area/network: | Latitude: ................................ Longitude: ................................ |

**Basic Project Requirement:**

| **No.** | **Criteria** | **Field Observation** |
| --- | --- | --- |
| 1 | Is there any subsidised solar irrigation system installed previously by AEPC? | □ Yes □ No |
| 2 | RE subsidy qualification verification regarding distance from the grid to the source?  (Minimum 300 meters) | □ Yes □ No |
| 3 | Is there any conflict with the water source? | □ Yes □ No |
| 4 | Are there any transmission pipes passing through important towns, groups of villages, or areas with commercial, political, military, social, or religious significance? | □ Yes □ No |
| 5 | Are there any endangered or threatened animals and birds in the area where the project is located? | □ Yes □ No |
|  | **If the answer to any of the questions above is Yes, then stop the survey at this point.** |  |

1. **Socio-Economic Information of the Beneficiary**

|  |  |
| --- | --- |
| Occupation: |  |
| The number of family members including male and female numbers: | Total: .......... Male: .......... Female: .......... |
| Primary income source: |  |
| Avg. household monthly income (NRs.): |  |
| Total Land Area for Irrigation (Kathha/Bighas): |  |
| Existing irrigation practice: | Rainwater only  Diesel pump  Electric pump  Others: ............................................... |
| Landowner/ownership type: | Private  Public  If private, owner’s name: ............................................... |
| Soil type: |  |
| Land topography: | Flat  Slope |
| Types of crops grown (major and seasonal): |  |
| Local weather pattern: |  |
| The number of days practised for irrigation in a month: |  |
| Specify land area for solar array installation: | .............................. Land unit: ........................ |
| No Objection Letter from the concerned local government, if the water source is public: |  |

1. **Technical Information**

|  |  |
| --- | --- |
| Source of water: |  |
| Discharge of water (Bucket method or, if it is boring, then concerned people consultation) (Lps): |  |
| Depth of water level in case of boring (m):  (Measure the depth of water by lowering a wetted steel tape into the well until the lower part of the tape is under water. A chalk coating on the last few feet of tape indicates the exact water level.) |  |
| Total vertical dynamic head (m): |  |
| Peak sunshine hours: |  |
| Status of transmission or distribution pipe: | No transmission or distribution pipes exist currently  There is an existing transmission pipe  There is an existing distribution pipe |
| Total transmission pipe length (m): |  |
| Total water requirement (litresper day): |  |
| How far is the distance between the pump location and the area where solar PV modules can be installed without any shadows (m)?: |  |
| Cable length from the controller to the pump (m): |  |
| Approximate solar array size (Wp): |  |
| Approximate size of the pump (HP/kW): | ......................... Pump capacity unit (HP/kW): .................... |

1. **Civil Structure Information**

|  |  |  |
| --- | --- | --- |
| **Civil Structure** | | **Remarks** |
| Requirement of Intake/Collection chamber/Collection tank/Borehole/Canal /Distribution tank (tick all that apply): | Intake  Collection chamber  Collection tank  Borehole  Canal  Distribution tank | Cost estimate sheet from LG for new structure or Cost Verification letter from LG in the case of existing civil structure |
| Transmission/Distribution pipe length (m): |  | |
| Pipe diameter (mm): |  | |
| Type of pipe: | MS Steel  Galvanised Iron (GI)  HDPE  Others: ............. | |

1. **Estimated Total Project Cost**

|  |  |
| --- | --- |
| Civil cost (NRs.): |  |
| Electromechanical cost (NRs.): |  |
| Total project cost (NRs.): |  |

1. **Approximate Project Financing Plan:**

|  |  |  |
| --- | --- | --- |
| Total project cost (NRs.): |  | |
| Subsidy amount (NRs.): | Amount: ……………………………….. | %: ……….. |
| Institution’s or local government’s contribution (NRs.): | Amount: ……………………………….. | %: ……….. |
| Individual cash contribution (NRs.): | Amount: ……………………………….. | %: ……….. |

1. **Operation and Spare Parts Management Plan:**

|  |  |
| --- | --- |
| O&M plan or “sustainability plan” explaining how the operation and maintenance costs will be covered by the individual farmer or the local government: |  |

1. **Conclusion and Recommendations**

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| --- |
|  |

**Annexes**

* 1. **Annex 1: Photos** 
     + - * Suitable solar PV array installation site.
         * Water source (borehole/spring/open well or others).
         * Water distribution or transmission Line.
         * Land with farmers.
  2. **Annex 2: Documents** 
     + - * Landowner document copy/Lease agreement paper.
         * No dispute letter from the local government if the source is public.
         * Commitment letter from local government/farmer/firm stating willingness, commitment and contribution to the remaining amount of contribution.
         * Commitment letter from the land owner regarding their willingness to provide their land to construct the civil structure and installation of the solar array. If the land is public property, then the concerned local government No Objection Letter is required.
         * Letter from local government/ISIP owner giving mandate to AEPC for tendering of electro-mechanical parts.
  3. **Annex 3: Final BoQ**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SN** | **Item Description** | **Capacity** | **Quantity** | **Unit** | **Unit price in NRs. (Excluding VAT)** | **Total Amount in NRs.** |
| **In Figures** | **In Figures** |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 = 4 X 6 |
| **A** | **Insurance** | PS | | |  |  |
| **B** | **Non-Vatable item** | | | | | |
| 1 | PV module |  | | Wp |  |  |
| **C** | **Vatable item** | | | | | |
| 2 | **Pump with Control Unit** | | | | | |
| a) | Submersible/Surface Solar Pump with controller and pump accessories including spare pump set and controller |  |  | Nos |  |  |
| 3 | Aluminum / GI Mounting Structure with concrete foundation |  | 1 | Per kW/LS |  |  |
| 4 | DC-Switch Box (IEC 60529 class IP65 or better) |  |  | PCs |  |  |
| 5 | Power cable 4 core 16 mm2 armored | Voltage drop less than 3 % |  | m |  |  |
| 6 | Flowmeter (Digital/Analog) |  |  | PCs |  |  |
| 7 | Lighting Arrester | As per technical specification | LS |  |  |  |
| 8 | Earthing & Grounding | As per technical specification | LS |  |  |  |
| 9 | Surge Protectors (AC and DC) | As per scope | |  | Pc. |  |
| 10 | Circuit breaker |  | |  | set |  |
| 11 | **Transmission Pipeline** | | | | | |
| a) | GI/HDPE with grade |  |  | m |  |  |
| 12 | Concrete (M20 Grade) for Support pillar /Foundation of mounting str. |  |  | LS |  |  |
| 13 | Barbed wire fencing for solar array and pump area |  |  | Nos |  |  |
| 14 | Fitting Accessories (Flange nut bolt, washer, Gate valve, Tee, Bend, Nipple, GI union, reducer, Pressure gauge etc.) with Welding Cost |  |  | LS |  |  |
| 15 | Spare Parts |  | 1 | LS |  |  |
| 16 | Site verification, Survey, Training and Manual |  | 1 | LS |  |  |
| 17 | Solar Site Clearance and Solar Installations |  | As per scope | LS |  |  |
| 18 | Testing and Commissioning |  | 1 | As per scope |  |  |
| 19 | After Sales Service |  | 1 | As per scope |  |  |
| 20 | Transportation |  | 1 | LS |  |  |
| **D** | **Non-Vatable Cost (NRs.)** | | | | |  |
| **E** | **Vatable Item Cost (NRs.)** | | | | |  |
| **F** | **VAT @ 13% of VAT Applicable Items Only** | | | | |  |
| **G** | **Total Amount including VAT in Figures (NRs.) (Non-Vatable Cost + Vatable Cost + VAT)** | | | | |  |
| **H** | **Total Amount including VAT in Figures (NRs.) (Non-Vatable Cost + Vatable Cost + VAT+PS)** | | | | |  |

**Project Site Map**

Please provide a diagram illustrating the water source, pump location, and solar PV array installation in conjunction with the irrigated land.

