

UNDP Afghanistan

Site Assessment Data

Provision of Electricity and Hot Water Systems to Health Facilities in the Western Region

Date: 8-Feb-22

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| Name of Health Facility, Type | Kariz zaman, SHC |
| Village, Province, District | Kariz zaman village, Kesk-e-kohna district, Herat Province |
| Name, phone number of contract person | Mohammad Musa, 0797005183 |
| Assessment Conducted by (UNDP Field Engineer) | Eng. Ebadullah Momand |
| Distance from Herat, type of road to the health facility | 137 Km distance from Herat City to HF(82 km Asphalt road+55 km earth road) |
| GPS Point (Coordinates) | |
| Review and recommendation of project manager | |

| S/N | Description | Field Data |
|-----|--|--|
| 1 | Existing Power Source (Generator, Solar etc.) and its capacity in kW | Generator with 2 KW capacity. Need for repairing. 1 solar panel 100 watts capacity. One battery 70 A |
| 2 | Number of rooms in the facility | Totally 10 Rooms, 1 Toilets, 1 Corridor Two rooms outside of building, 6 toilet outside |
| 3 | Existing house wiring? Number of power points | The building has internal wiring |
| 4 | Total electrical load <ul style="list-style-type: none"> - Total number of light bulbs- total Watt - Refrigerator, heater - total Watt - Any other equipment – total Watt (Use a separate sheet, if required) | Main building of Clinic Existing equipments: Bulbs: 25 Ceiling fans: 13 Light (for child birth room): 1 Water boiler See Annex A & B for further details and needs. |

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| 5 | Cables, wiring, conduits, Junction box etc. require maintenance/replacement. If yes, prepare a BoQ. | SHC has internal wiring |
| 6 | Existing streetlight in the compound? | Doesn't have street light. |
| 7 | Total number of staff | 5 personals |
| 8 | Average number of patients per day | 60 Patients per day |
| 9 | Number of Villages under coverage | 13 villages/ 900 HHs/7150 Populations |
| 10 | Existing water supply facility, existing plumbing system | SHS has water supply facility and plumbing system, but doesn't have functional water well. Bringing water in barrels by hand from village, 300 meter away from clinic. |
| 11 | Existing water boiler? Provide detail (type, capacity, year of installations, lifespan etc.) | 1 water boiler, 80 liter, 1500 watt , 2006 |
| 12 | Functional Water well in the facility. Water depth in the well. Water depth from the surface | Doesn't have functional water well. Need for water well. |
| 13 | Capacity of water tank. Insulated or not? Tank height from the surface | 1000 liter metal water tank, not insulated. Tank height is 6 meter from the surface. |
| 14 | Type of the existing Structure (RCC/load bearing walls) | RCC |
| 15 | Type of existing roof (Pitch or Flat) | RCC flat roof |
| 16 | If the roof is Pitch, how many solar panels can be installed on the south face of the Pitch roof? | Nil |
| 17 | If the roof is flat concrete, how many solar panels could be installed toward the south face? | Yes the roof has enough area for mounting solar panels. Main building flat roof Area: $15 \times 7 = 105$ sqm And also there is enough place on the ground surface to mount solar system toward the south face. |
| 18 | Does the existing roof is fit for installation of Solar System or Required Maintenance/repairing works? | Yes, roof is fit for installation and mounting solar panels. See site plane and roof plan for further details. |

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| 19 | If above answer is yes, prepare BoQ and estimation for the repairing/upgrading | Nil |
| 20 | Distance from roof to existing main panel board | From main building roof to electricity board to: 25 m |
| 21 | Dimension of existing building in m. (Use a separate paper for a sketch) | Clinic main building dimensions: Length: 17 m East to west Width: 12.5 m north to south Annex D : sketch of the site |
| 22 | Are there any technical obstacles/challenges to affect the installation and implement of the solar system as planned? If yes, provide detailed information, recommendation, BoQ along with photos. | There were no technical obstacle and challenges for installation of solar panel. The responsible person expressed his willingness. |
| 23 | Is there access to the roof for installations of solar panels | Doesn't have access. |
| 24 | Take photos of the facility showing a bird eye view, structures, wirings, existing electrical system and roof | See Annex C for photos |

Surveyors' Comment: The observation and survey data showed this HF should be include in the priority list. To provide a solar electricity and solar hot water systems.

Annex A: Existing electrical appliances load calculation

| Kariz zaman BH clinic exciting electrical Appliances and energy consumption | | | | | | | | |
|---|---------------|--------------|---------------|---------------------|--------------------|--------------------------|---------------|---------|
| No | Equipment | Existing QTY | Power (watts) | Total Power (Watts) | Hours used per day | Energy used (watt-hours) | KW-Hr per day | Remarks |
| 1 | Bulbs | 25 | 15 | 375 | | | | |
| 2 | Refrigerators | 0 | 0 | 0 | | | | |
| 3 | Exam light | 0 | 65 | 0 | | | | |
| 4 | Fans | 13 | 100 | 1300 | | | | |
| 5 | Street light | 0 | - | 0 | | | | |

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|---|--------------|---|------|------|--|--|--|--|
| 6 | Water boiler | 1 | 1500 | 1500 | | | | |
| 7 | Total | | | 3175 | | | | |

Annex B: Needed electricity load assessment

| Khowaja Chahar Shanba BH Needed electrical appliances load assessment | | | | | | | | |
|---|---------------|-----|---------------|---------------------|--------------------|--------------------------|---------------|---|
| No | Equipment | QNY | Power (watts) | Total Power (Watts) | Hours used per day | Energy used (watt-hours) | KW-Hr per day | Remarks |
| 1 | Bulbs | 25 | 15 | 375 | | | | |
| 2 | Refrigerators | 1 | 300 | 300 | | | | |
| 3 | Water Boiler | | - | 0 | | | | Solar hot water system will provide hot water |
| 4 | Warmer | 1 | 1500 | 1500 | | | | |
| 5 | Autoclave | 1 | 1000 | 1000 | | | | |
| 6 | LCD | 1 | 60 | 60 | | | | |
| 7 | Exam light | 1 | 50 | 50 | | | | |
| 8 | Fans | 11 | 100 | 1100 | | | | |
| 9 | Street light | 1 | 100 | 100 | | | | |
| 10 | Total | | | 3810 | | | | |

Annex C: site photos







