

## UNDP Afghanistan

### Site Assessment Data

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

Date: 14-Feb-22

Name of Health Facility, Type	Koklan, CHC
Village, Province, District	Koklan village, Kesk-e-kohna district, Herat Province
Name, phone number of contract person	Dr. wazir Ahmad, 0779100661
Assessment Conducted by (UNDP Field Engineer)	Ebadullah Momand
Distance from Herat, type of road to the health facility	160 Km distance from Herat City to HF(90 km Asphalt road+70 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 2.5 KW capacity. Need for repairing. 3 solar panels (350 watts) capacity.
2	Number of rooms in the facility	20 rooms
3	Existing house wiring? Number of power points	The building has internal wiring, but need to maintenance
4	Total electrical load <ul style="list-style-type: none"> <li>- Total number of light bulbs- total Watt</li> <li>- Refrigerator, heater - total Watt</li> <li>- Any other equipment – total Watt (Use a separate sheet, if required)</li> </ul>	Main building of Clinic Existing equipments: Bulbs: 25 Ceiling fans: 13 Light (for child birth room):1 Water boiler: 2 See Annex A & B for further details and needs.
5	Cables, wiring, conduits, Junction box etc. require maintenance/replacement. If yes, prepare a BoQ.	CHC has internal wiring need to maintenance, replacement of joint boxes, some sockets, and fuse boxes. Need to all bulbs and holders to be replaced.

6	Existing streetlight in the compound?	Doesn't have street light. Need it.
7	Total number of staff	22 personals
8	Average number of patients per day	130 Patients per day
9	Number of Villages under coverage	35 villages
10	Existing water supply facility, existing plumbing system	CHC has water supply facility and plumbing system.
11	Existing water boiler? Provide detail (type, capacity, year of installations, lifespan etc.)	2 water boiler, 80 liter, 1500 watt , 2006
12	Functional Water well in the facility. Water depth in the well. Water depth from the surface	2 functional water wells. Depths of wells 15 m and 50 m And water depth from ground surface is 14 m.
13	Capacity of water tank. Insulated or not? Tank height from the surface	1000 liter metal 2 water tank, not insulated. Tank height is 5 meter from the surface.
14	Type of the existing Structure (RCC/load bearing walls)	Brick masonry with iron girders used in roof and walls made of brick masonry.
15	Type of existing roof (Pitch or Flat)	The roof is pitch with few slope, seems near to flat roof. The length of the roof is not in south face.
16	If the roof is Pitch, how many solar panels can be installed on the south face of the Pitch roof?	yes Roof area: (18.5x27) m
17	If the roof is flat concrete, how many solar panels could be installed toward the south face?	Nil
18	Does the existing roof is fit for installation of Solar System or Required Maintenance/repairing works?	The roof south face need some preparedness (supports and array) for installation and mounting solar panels.  See site plane and roof plan for further details.
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 building roof to electricity board to: 35 m

21	Dimension of existing building in m. (Use a separate paper for a sketch)	Clinic main building dimensions: Length: 27 m north to south      Width: 18.5 m East to west 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. Doesn't have ladder.
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

Koklan CHC 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	50	15	750				
2	Refrigerators	0	0	0				
3	Exam light	0	65	0				
4	Fans	0	100	0				
5	Street light	0	-	0				
6	Water boiler	1	1500	1500				
7	Total			2250				

## Annex B: Needed electricity load assessment

Koklan CHC 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	60	15	900				
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	20	100	2000				
9	Street light	1	100	100				
10	Total			5910				

## Annex C: site photos









