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	Cha Rig, BHC
Village, Province, District	Cha Rig village, Ghoryaan district, Herat Province
Name, phone number of contract person	Khadim, 0791569661
Assessment Conducted by (UNDP Field Engineer)	Ebadullah Momand
Distance from Herat, type of road to the health facility	161Km distance from Herat City to HF(130 km Asphalt road+31 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	2 Generator with 4.5 KW and 2 KW capacity. 1 solar panels (250 watts) capacity. Battery 150 A
2	Number of rooms in the facility	11 rooms
3	Existing house wiring? Number of power points	The building has internal wiring.
4	Total electrical load - 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: 40 Ceiling fans: 11 Light (for child birth room):1 Water boiler: 1 See Annex A & B for further details and needs.
5	Cables, wiring, conduits, Junction box etc. require maintenance/replacement. If yes, prepare a BoQ.	No need to maintenance.

6	Existing streetlight in the compound?	Doesn't have street light. Need it.
7	Total number of staff	8 personals
8	Average number of patients per day	70 Patients per day
9	Number of Villages under coverage	5 villages
10	Existing water supply facility, existing plumbing system	BHC supply facility and plumbing system need to maintenance and replacement of pipes, because its damaged and water tank is also damaged.
11	Existing water boiler? Provide detail (type, capacity, year of installations, lifespan etc.)	1 water boiler, 80 liter, 1500 watt , 2009
12	Functional Water well in the facility. Water depth in the well. Water depth from the surface	1 water wells. Has hand pump need to repairing. The water is not potable. But the clinic is connected to the village pipe scheme.
13	Capacity of water tank. Insulated or not? Tank height from the surface	2000 liter metal water tank, not insulated. Damaged, Tank height is 5 meter from the surface. Need to replace.
14	Type of the existing Structure (RCC/load bearing walls)	RCC
15	Type of existing roof (Pitch or Flat)	The roof is pitch,. 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 pitch Roof south face area: (12x3.5) m there are place on the ground for Mounting solar panels as well. 
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?	Yes, but there is few area (small triangular) to the south face there are place on the ground for mounting solar panels as well 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: 40 m
21	Dimension of existing building in m. (Use a separate paper for a sketch)	Clinic main building dimensions: Length: 17 m north to south Width: 12 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

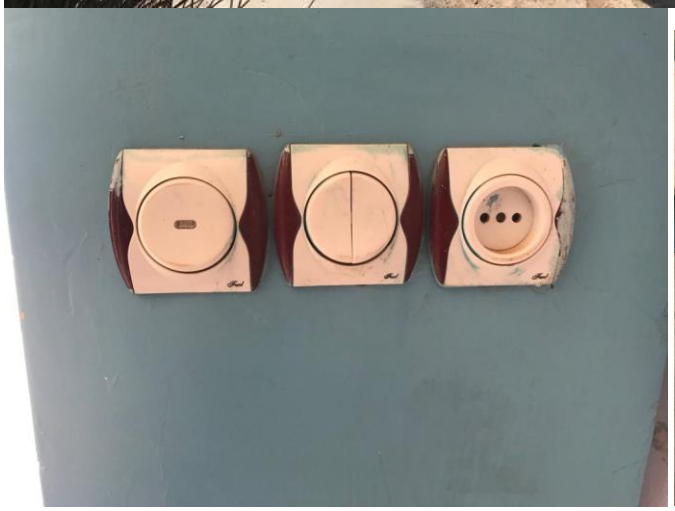
Cha Rig BHC exciting electrical Appliances and energy consumption								
No	Equipment	Existing QTY	Power (watts)	Total Power (Watts)	Hours used per day	Energy used (watt-hours)	KW-Hr per day	Remarks
1	Bulbs	40	15	600				
2	Refrigerators	0	0	0				
3	Exam light	1	65	65				
4	Fans	10	100	1000				
5	Street light	0	-	0				
6	Water boiler	1	1500	1500				
7	Total			3100				

Annex B: Needed electricity load assessment

Cha Rig BHC 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	40	15	600				
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	10	100	1000				
9	Street light	1	100	100				
10	Total			4610				

Annex C: site photos


Hall




FUJI
DELUXE
MODEL TP-12.5
FUJI


20A
25% 50% 75% 100%
SOLAR POWER CONTROLLER

Annex D:Site sketch