

# UNDP Afghanistan

## Site Assessment Data

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

Date: 8-Feb-22

Name of Health Facility, Type	Khowaja Chahar Shanba, BHC
Village, Province, District	Khowaja Chahar Shanba village, Karukh district, Herat Province
Name, phone number of contract person	Mojeeburahman, 798726001
Assessment Conducted by (UNDP Field Engineer)	Eng. Ebadullah Momand
Distance from Herat, type of road to the health facility	68 Km distance from Herat City to HF, Asphalt 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. 2 solar panel (150 +60) watt capacity. One battery 100 A
2	Number of rooms in the facility	Main Building of clinic have Totally 8 Rooms, 3 Toilets, 1 Corridor, Veranda
3	Existing house wiring? Number of power points	The building have internal wiring but it need to repair and extension. Second option: It will be better to do new wiring.
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: 27 Refrigerator: 0 Warmer:1 Ceiling fans: 0 Light (for child birth room):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.	Have wiring inside the building, Need to Repair and extension. All bulbs and holders are need to be replaced.
6	Existing streetlight in the compound?	Don't have street light. Need it.
7	Total number of staff	9 personals ( 1 nurse, 1 Midwife,1 supervisor CHS, 2 vaccinator, 2 guards)
8	Average number of patients per day	120 Patients per day
	Number of Villages under coverage	27 villages/ 3234 HHs/22640 Populations
9	Existing water supply facility, existing plumbing system	Don't have water supply facility, bringing water in barrels by hand from village, 300 meter away from clinic, have a water tank on the roof of clinic building its connected to a village water reservoir, but they said it is not permanent and regularly getting water from the village. They requested a bore well. Already they have a dug well 32 meter deep it's dug by hand and it is not possible to dig more by hand. They said that they need to dig this will by drill to solve the water problem.
10	Existing water boiler? Provide detail (type, capacity, year of installations, lifespan etc.)	Don't have
11	Functional Water well in the facility. Water depth in the well. Water depth from the surface	Have water dug well 32 meter deep, don't have water its drayed. It's dug by hand and not possible to dig more by hand. <b>Recommended option:</b> They said that they need to dig the well more, this will by drill to solve the water problem.
12	Capacity of water tank. Insulated or not? Tank height from the surface	1000 liter metal water tank, not insulated. Tank height is 7 meter from the surface. Only the mid wife room connected to water tank. Not insulated
13	Type of the existing Structure (RCC/load bearing walls)	RCC
14	Type of existing roof (Pitch or Flat)	RCC flat roof

15	If the roof is Pitch, how many solar panels can be installed on the south face of the Pitch roof?	
16	If the roof is flat concrete, how many solar panels could be installed toward the south face?	Main building flat roof Area: 15x7=105 sqm Sub building flat roof area: 16x7= 112 sqm Yes there enough place to mount solar system toward the south face.
17	Does the existing roof is fit for installation of Solar System or Required Maintenance/repairing works?	Yes, Both roof are fit for installation and mounting solar panels.  See site plane and roof plan for further details.
18	If above answer is yes, prepare BoQ and estimation for the repairing/upgrading	Nil
19	Distance from roof to existing main panel board	From main building roof to electricity board to: 15 m
20	Dimension of existing building in m. (Use a separate paper for a sketch)	Clinic main building dimensions: Length: 15 m East to west                      Width: 7 m north to south Sub building dimensions : Length : 16 m north to south      width: 7 m East to west  Annex D : sketch
21	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.
22	Is there access to the roof for installations of solar panels	Don't have
23	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

Khowaja Chahar Shanba 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	27	15	405				
2	Refrigerators	0	0	0				
3	Water Boiler	0	1500	0				
4	Warmer	1	1500	0				
5	Auto Clave	0	1000	0				
6	LCD	0	60	60				
7	Exam light	1	65	65				
8	Fans	0	100	0				
9	Street light	0	-	0				
10	AC	0	1500	0				
10	Total			530				

# 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	27	15	450				
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	8	100	800				
9	Street light	1	100	100				
10	AC	0						
10	Total			4260				

Annex C: site photos









