

## UNDP Afghanistan

### Site Assessment Data

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

Date: 16-Feb-22

Name of Health Facility, Type	Awkal , BHC
Village, Province, District	Awkal village, Shindand district, Herat Province
Name, phone number of contract person	Abdulhai, 0784670061/ Abdullah, 0784624727
Assessment Conducted by (UNDP Field Engineer)	Eng. Ebadullah Momand
Distance from Herat, type of road to the health facility	152 Km distance from Herat City to HF( 125 Asphalt road +27 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. 2 solar panels each (300) watt capacity. 4 solar panels each 215 watts capacity for refrigerator.
2	Number of rooms in the facility	Totally <b>11 Rooms</b> , 1 Toilets, 1 Corridor, 6 outside toilets.
3	Existing house wiring? Number of power points	The building has internal 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 <i>(Use a separate sheet, if required)</i></li> </ul>	Bulbs: 22 Refrigerator: 1 Warmer:0 Ceiling fans: 10 Light (for child birth room):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.	HF has wiring inside the building, Need some sockets to be replaced.
6	Existing streetlight in the compound?	Don't have street light. Need it.
7	Total number of staff	8 personals (1 nurse, 1 Midwife, 1 supervisor CHS, 2 vaccinator, 1 guards)
8	Average number of patients per day	130 Patients per day
	Number of Villages under coverage	158 villages/7264 HHs
9	Existing water supply facility, existing plumbing system	Yes. HF has water supply system.
10	Existing water boiler? Provide detail (type, capacity, year of installations, lifespan etc.)	2 water boiler, 100 liter, 1500 watts, 2008
11	Functional Water well in the facility. Water depth in the well. Water depth from the surface	Yes, HF has water well 50 meter deep, Has enough water. Water depth from ground surface 15 me.
12	Capacity of water tank. Insulated or not? Tank height from the surface	1000 liter metal water tank, not insulated. Tank height is 5 meter from the surface.
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?	Nil
16	If the roof is flat concrete, how many solar panels could be installed toward the south face?	Yes there is enough place on the roof of the building.
17	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.
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: 40 m
20	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
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	Doesn't have access.
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

Awkal 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	22	15	330				
2	Refrigerators	0	0	0				Already has solar energy system
3	Water Boiler	2	1500	3000				
4	Warmer	0	1500	0				

5	Auto Clave	0	1000	0				
6	LCD	0	60	60				
7	Exam light	1	65	65				
8	Fans	10	100	1000				
9	Street light	2	100	200				
10	Total			4645				

#### Annex B: Needed electricity load assessment

Awkil 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	30	15	450				
2	Refrigerators	0	300	0				Has already solar energy sys
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	17	100	1700				
9	Street light	2	100	200				
10	Total			4960				

Annex C: site photos









Annex D: Site plan

## Awkal Clinic Site plan

