UNDP Afghanistan

Site Assessment Data

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

Date: 7-Feb-22

Name of Health Facility, Type	Toqchi BHC
Village, Province, District	Toqchi village, Guzarah district, Herat Province
Name, phone number of contract person	Ahmad Sayed, 0728300244
Assessment Conducted by (UNDP Field Engineer)	Eng. Ebadullah Momand
Distance from Herat, type of road to the health facility	44Km distance from Herat City (37 Km Asphalt road+7Km Earth road) to HF
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	Connected to the city Grid electricity. Generator with 2 KW capacity. Not enough for clinic. 2 solar panels each capacity 100 watt, didn't have cables
2	Number of rooms in the facility	Clinic main building (8 Rooms, 2 toilets, 1 beg Hall, Corridor, two toilets) Nurse and midwife residency building (5 rooms, 2 toilets) **Totally 13 rooms and 4 toilets, 1 Hall and corridor**
3	Existing house wiring? Number of power points	The facility building has internal wiring. Only vaccinator room doesn't have 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)*	Existing equipment: Bulbs:22 Refrigerator: 0 Warmer: 0 Ceiling fans: 6 Light (for birth room):1 LCD 43 inch: 1 Water pump: 1

		See Annex A for further details and need assessment
5	Cables, wiring, conduits, Junction box etc. require maintenance/replacement. If yes, prepare a BoQ.	The health facility building has wiring. Only vaccinator room doesn't have wiring, need wiring. The wiring need to maintenance. Need to replace all bulbs
6	Existing streetlight in the compound?	Doesn't have street light. Need it
7	Total number of staff	Total 8 personals (1 Nurse, 1 Midwife,1 supervisor CHS, 2 vaccinator, 2 guards)
8	Average number of patients per day	125 Patients per day
9	Existing water supply facility, existing plumbing system	The health facility building has water supply system. Has two functional well (Bore hole and dug well. And also taking water from village water pipe scheme. And the cost of one cubic meter is 5 AFN. HF has plumbing system. Only two room don't have plumbing for water supply.
10	Existing water boiler? Provide detail (type, capacity, year of installations, lifespan etc.)	Three water boiler, two Need to repair. 80 lit capacity, 1500 watt. Installation date 2003.
11	Functional Water well in the facility. Water depth in the well. Water depth from the surface	Borehole 18 meter deep and water depth in the well is 16 meter. Hand pump water well (Dug well) with 1 meter diameter 4.5 meter deep and water depth in the well is 2.5. Have enough water, The wells located 4 meter far from the HF building.
12	Capacity of water tank. Insulated or not? Tank height from the surface	HF Has two water tank each capacity 1000 liter, not insulated. Water tanks height is 7 meter from the ground surface.
13	Type of the existing Structure (RCC/load bearing walls)	Main HF building Type of structure is Mud and the roof is cupola. Load bearing walls. The other building is RCC.
14	Type of existing roof (Pitch or Flat)	Type of main building roof is mud cupola. Type of the other building is flat RCC.
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?	Main building has mud cupola roof it's not fit for installation of solar panel. Not stable as well. Sub building has RCC flat roof 3.5x8 m the long length is North to south. See site plan for further details. The roofs need to Isogram (a layer of insulation to Keep roof safe against rain and snow etc.)
17	Does the existing roof is fit for installation of Solar System or Required Maintenance/repairing works?	The sub building 3.5x8 m roof is fit for solar panels, but the long length is north to south. See site plane for further details.
18	If above answer is yes, prepare BoQ and estimation for the repairing/upgrading	The roofs need to Isogram (a layer of insulation to prevent roof from rain and snow etc.)
19	Distance from roof to existing main panel board	About 20 m
20	Dimension of existing building in m. (Use a separate paper for a sketch)	Main building Length: 21m North to south Width: 14 m East to west Sub building: 8 m North to south Width: 3.5 m East to west
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 obstacles 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 stable stairs, uses very unstable wooden ladder.
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:

Annex A: Existing electrical appliances load calculation

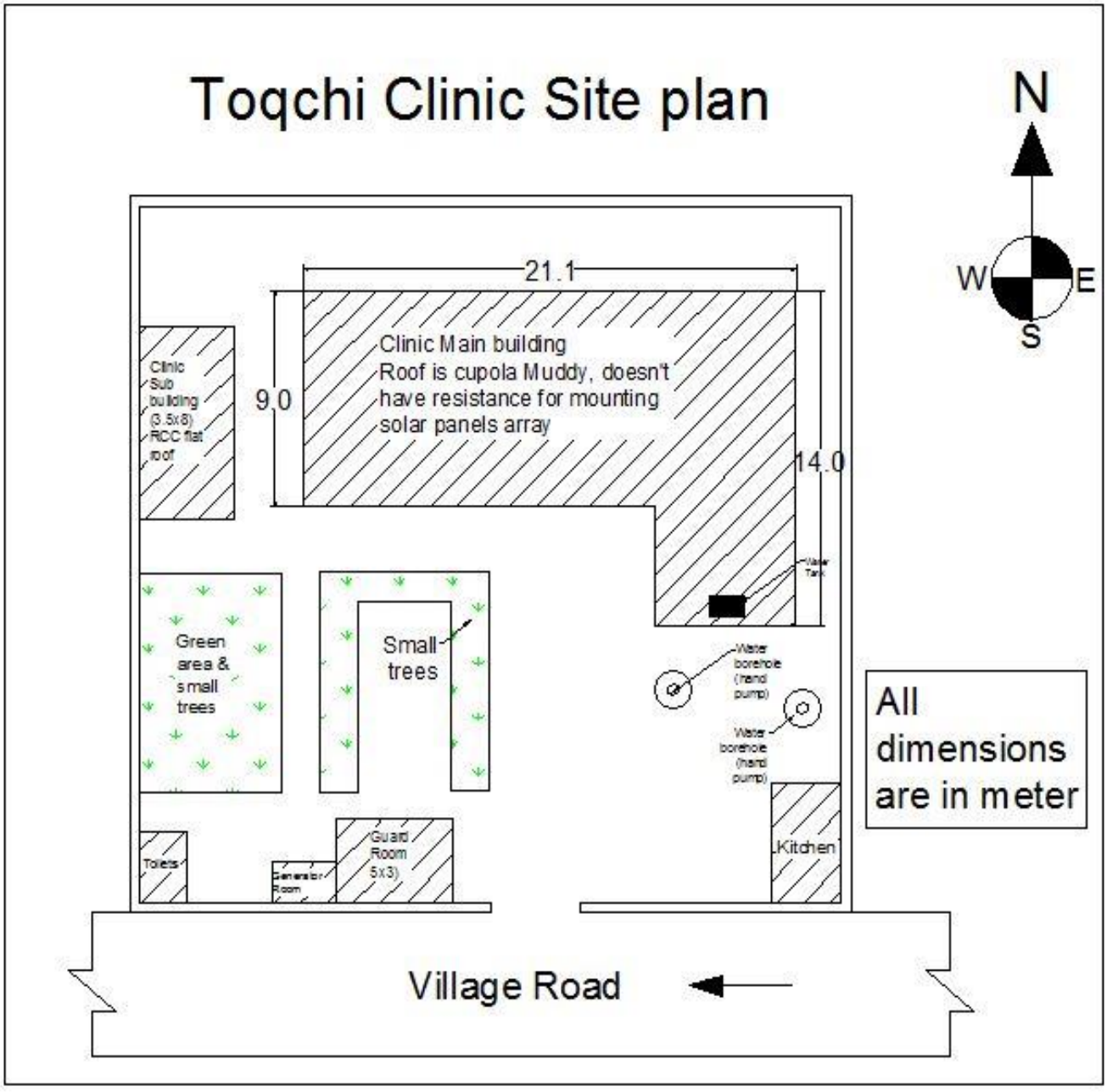
Janda khanBH clinic exciting electrical equipment and energy consumption								
No	Equipment	Existing QTY	Power (watts)	Total Power (Watts)	Hours used per day	Energy used (watt-hours)	KW-Hr per day	Remarks
1	Bulbs	22	15	330				Need to replace
2	Refrigerators	0	0	0				At present use gas refrigerator
3	Water Boiler	3	1500	4500				
4	Warmer	1	1500	1500				
5	Auto Clave	0	0	0				Use gas Autoclave
6	LCD	1	80	80				
7	Exam light(Movable)	1	50	50				Used in Birth room
8	Fans	6	100	600				
9	Street light	0	100	0				
10	Heater (stove)	1	1000	1000				
10	Total			8060				

Annex B: Needed electricity load assessment

Toqchi BH clinic- Guzarah district 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	35	15	525				
2	Refrigerators	1	300	300				
3	Water Boiler	0	1500	0				Solar water heater
4	Warmer	1	1500	1500				
5	Auto Clave	1	1000	1000				
6	LCD	1	80	80				

7	Exam light	1	65	65				
8	Fans	11	100	1100				
9	Street light	1	100	100				
10	Water pump	1	500	500				
11	Heater	1	1000	1000				
10	Total			6170				

Annex C: Site skech



Annex D: Site photos


TOP GLASS