PROJECT BUDGET BREAKDOWN

S/No	DESCRIPTION OF ITEIM	JUSTIFICATION	UNIT PRICE (₦)	QUANTITY (₦)	TOTAL (₦)
	1kW, wind turbine generator (Sun -1000)	The wind turbine generator is the power source of the system use to pump water and also store energy in the power bank for back-up.	600,000	21	12,600,000
	3HP water pump (ATPUMP: WQ Sewage submersible pump series)	The pump will be use to pump water from the upper reservoir to the lower reservoir	1,375,000	2	2,750,000
	Arduino uno microcontroller	This will be responsible for the control of the pumping and irrigation	75,000	2	150,000
	15kWh Lithium battery	Back-up for control system and lighting the facility	2,500,000	1	2,500,000
	Wireless soil moisture sensor	It's monitors soil moisture at wide range	10,000	20±	200,000
	contactors	Is use to switch on and off the pumps and the valves	35,000	6	210,000
	Relay timer	This is used to delay switching of the contactor	20,000	3	60,000

	Voltage monitor	It cuts out under voltage and over voltage to protect the contactor and the load	25,000	3	75,000
	Digital energy meter with memory	It will record the useful energy generated by the wind turbine in real time	50,000	1	50,000
	3 inches DC solenoid valves	The microcontroller will use the device to control irrigation	350,000	5±	1,750,000
	DC 35A Star plug	Serves as current breakers to protect the wind turbine	5,000	21	105,000
	Panel box	It will house the, contactors, meters, relay, star plugs switches and the microcontrollers	50,000	1	50,000
	Electronics work station and digital meters	Will be used to build the microcontroller circuits	345,000	1	345,000
	Tool box	This is needed for the installation	150,000	1	150,000
	2.5mm, 2 core cable	This carries power from the wind turbine charge	1000	780m	780,000

		controller to the panel box			
	2.5mm, 3 core cable	Connect the wind turbine with the charge controller	1500	50m	75,000
	Combiner box	To connect the output of all the wind turbine charge controllers to one bus.	25,000	1	25,000
	Cement (bags)	For concrete foundation of the wind turbine and to build reservoir were necessary	11,000	100 bags	1,100,000
	16mm re-enforcement frame	For concrete re-enforcement	5000	21	105,000
	Gravel	For concrete making	167,000	10	1,670,000
	Sand	For concrete making	120,000	1	120,000
	Fencing barb wire	For fencing the perimeter	50,000	20	1,000,000
	Pipe (2 inches)	For pumping water to the reservoir and for conveying water for irrigation to various farm	10,000	50	500,000
	2 inches tap	To turn off and on the water flow	8,000	20 ±	160,000
	TOTAL				**26,605,000**